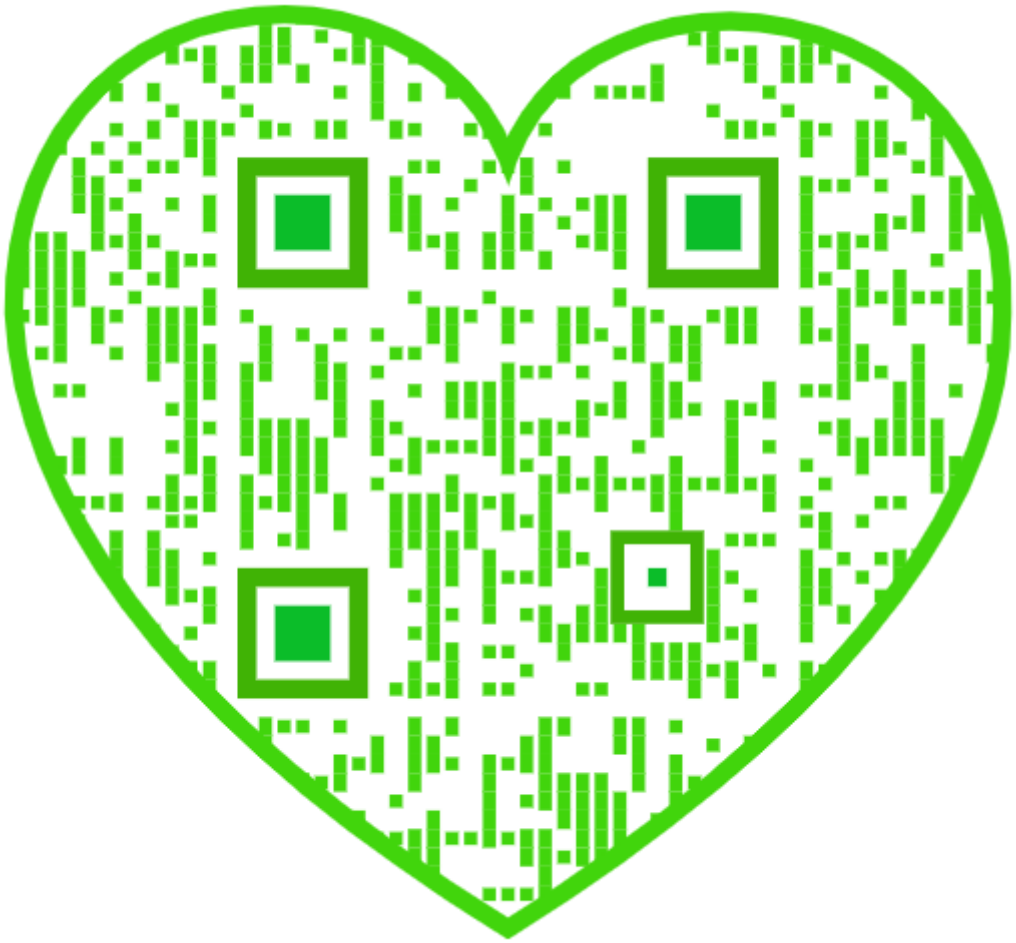
GUIDE TO THE MUSHROOMS

EMMA L. TAYLOR COLE



Pear-shaped Puffballs

GUIDE TO THE MUSHROOMS

BY
EMMA L. TAYLOR COLE.

With Illustrations from Photographs by
A. W. Cole.

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TABLE OF CONTENTS

	PAGE
Illustrations	7
Abbreviations of Names of Authors of Species	11
What are Mushrooms	13
Parts of a Mushroom	15
When and Where Mushrooms Grow	23
How to Collect Mushrooms and Prepare Them for the Table	37
Descriptions of Species	43
Glossary	186
Index of Scientific Names: Genera	195
Index of Scientific Names: Species	198
Index of Common Names	201

INDEX OF ILLUSTRATIONS

AGARICUS campester 118
" silvaticus 120
AMANITA Caesaria 120
" crenulata 52
" excelsa 44
" muscaria 46
" phalloides 44
" rubescens 48
AMANITOPSIS vaginata 54
ARMILLARIA mellea 60
BOLETINUS porosus .....
BOLETUS felleus 150
" scaber 146
CALAVATIA cariniformus 182
" gigantea 180
CANTHARELLUS cibarius 98
CLAVARIA cristata 166
" flava 166
CLITOCYBE gilva 70
" illudens 68
" laccata 66
COLLYBIA confluens 74
" dryophila 76
" radicata 70
" velutipes 72

Coprinus atramentarius 134
" micaceus 136
Cortinarius cinnabarinus 114
" corrugatus 117
Fistulina hepatica 154
Geaster hygrometricus 178
Geoglossum glutinosum 172
Hygrophorus miniatus 82
Hypholoma appendiculatum 124
" sublateritium 130
Hypomyces lactifluorum 162
Lactarius piperatus 86
" subdulcis 88
" volemus 84
Lepiota naucinoides 58
" procera 56
Lycoperdon pyriforme .....Frontispiece
Marasmius oreades 100
Morchella deliciosa 170
" semilibera 169
Mycena galericulata 76
Naucoria semiorbicularis 110
Phallus Ravenelii 176
Pholiota adiposa 41
Pleurotus ostreatus 78
" sapidus 80

Pluteus cervinus 106
Polyporus betulinus 160
" brumalis 156
" sulphureus 158
Polystictus perennis 162
Russula emetica 94
" foetens 92
" fragilis 96
" purpurina 90
Scleroderma vulgare 185
Sparassis crispa 164
Stropharia semiglobata 122
Tricholoma personatum 62
" sejunctum 64
Volvaria speciosa 102

Abbreviations of Names of Authors of Species.

Batsch.—Batsch.
Berk.—Berkeley.
Bull.—Bulliard.
Curt.—Curtis.
Fl. Dan.—Flora Danica.
Fr.—Fries.
Jacq.—Jacquin.
Kalchb.—Kalchbrenner.
Linn.—Linnaeus.
Müll.—Müller.
Pers.—Persoon.
Pk.—Peck.
Relh.—Relhan.
Roze—Roze.
Schaeff.—Schaeffer.
Schulz—Schulz.
Schw.—Schweinitz.
Scop.—Scopoli.
Sec.—Secretan.
Sow.—Sowerby.
Swartz—Swartz.
Vitt.—Vittadini.
Wahl.—Wahlenberg.

WHAT ARE MUSHROOMS?

From early spring until late fall, everywhere about us may be seen the so-called toadstool. The name toadstool has been so long applied by people, to whom all mushrooms are a "hidden tongue," that it has come to be generally accepted as meaning something poisonous. The first question generally asked concerning mushrooms is, "How do you tell a mushroom from a toadstool?" in reality meaning how can edible mushrooms be determined from the poisonous species. Toadstool is simply the common name for mushroom as daisy is the common name for Chrysanthemum leucanthemum. There are edible mushrooms and poisonous mushrooms, and in order to determine the various species, one must study them as carefully as the birds and flowers are studied.

The mushroom springs up in such unexpected places and to all appearances in such a short time that the term "mushroom growth", has become a saying for an act done in an incredibly short time. As a mat-

ter of fact the growth of a mushroom is as slow as the majority of plants; the final blossom, if we may so term the cap, appears no more quickly than does the blossom of the buttercup and countless other flowers.

If the ground about a mushroom be examined, tiny white threads or roots called the mycelium are seen spreading in all directions. This is the mushroom spawn of the gardeners. During the development of the root, the cell-like structures, of which it is composed, gather together at intervals and form tiny knobs, which in turn grow gradually, all the time pushing upward toward the light. The knob is now somewhat egg-shaped and soon emerges from the ground, and is then called the "button stage." The little button develops rapidly, spreading out into a flat cap or parasol.

PARTS OF A MUSHROOM.

There are as many varieties of mushrooms as there are of flowers, each one possessing certain characteristics by which they are grouped into genera and species. To enable one to identify these, certain terms are employed with which it is necessary to become familiar in order to recognize individual mushrooms.

The Pileus or Cap.—This is the part of the mushroom which first attracts attention. It is quite thick, composed of interwoven threads called *hyphae* which form the *flesh* or *trama* of the pileus. The outer threads are thick and contain coloring matter which gives to the pileus its characteristic color; this is called the *cortex* or *cuticle*. Outside of this cuticle, there is often another layer, of glutinous or viscid nature, called the *pellicle*. In some instances this layer ceases to grow as the pileus expands and is torn or split as the rest of the pileus enlarges, remaining on the surface

in the form of *hairs, scales* or *granular dots.* The edge of the cap is known as the *margin.*

When the cap first emerges, it is egg-shaped, then it expands, becoming convex in shape, and is finally almost flat or plane. If the pileus is convex at maturity, it is said to be *campanulate;* when there is a sharp depression at the center, it is *umbilicate;* if irregularly sunken, *depressed;* if funnel shaped, *infundibuliform;* if there is a sharp knob at the center of the cap, it is *umbonate;* if the umbo is broad and rather indistinct, the cap is called *gibbous.*

Lamellae or Gills.—These are thin blades on the underside of the pileus radiating from the stem to the outer edge of the cap. The tissue of which they are composed is the *hymenium,* which is the spore bearing cell. The color of this spore bearing cell is not always indicative of the color of the spores. The general shape of the gill may be seen by cutting the pileus in halves. The gills may be *broad, narrow, lance-shaped (lanceolate).* When the end

gradually narrows to a point, they are *attenuate;* when they end in a sharp angle, *acute;* when the ends are rounded, *obtuse;* when the gills are connected by veins, they are said to be *anastomosed;* when of the same length, *equal or regular;* when of varying lengths, *irregular* or *unequal;* when one short one is interspersed between two or more longer ones regularly, they are said to be *forked.* If the gills are placed closely together, they are said to be *crowded;* if at some distance apart, *distant.* The relation of the gills to the stem is also of the greatest importance as many types are identified by this characteristic. Gills are *free,* when they are rounded off without reaching the stem;*adnexed,* when they reach the stem and are attached by the upper end; *adnate* when they reach and set squarely against the stem; *decurrent* when they extend down the stem; *sinuate* when they are wavy near the stem. In certain families of mushrooms, the edge of the gills is *sharp* like the blade of a knife; in others blunt, *obtuse;* in others toothed like a saw; others scalloped, *crenulate.* Again

certain varieties of gills melt *(deliquesce)* at maturity to a black, inky fluid.

Pores or Tubes.—The spores in some varieties are contained in pores or tubes situated underneath the flesh of the pileus. These tubes are described in different species as *round (rotund) angular, minute, large, short, long.* Like the gill with relation to the stem, they are *free, adnate, adnexed, decurrent;* sometimes they extend beyond the margin of the cap, and are called *emarginate.* When the pores curve outward from the margin to the stem, they are said to be *convex,* if flat, *plane.*

Spines.—Again the spores are borne on tooth-like projections called spines, which are found beneath the pileus, and in certain other species on the upper end of branches.

The above form of spore-bearing surfaces belong to one great family. There are other groups, some of which bear spores on the whole surface of the cap, while others, known as the "pouch fungi," contain the spores within a skin in a sac-like receptacle.

Spores, or the seeds of the mushrooms, are of various sizes, shapes and colors, and form very important characteristics by which divisions of genera are made. In general, the colors are *white,* the division of genera known as the *leucosporae; pink, rhodosporae; brown, ochrosporae;* and *black, melanosporae.* The shape of the spores is as varied as the color, being *elliptical, globose, oblong, spindle-shaped;* in appearance, *smooth, granular, warted.* To obtain spores from the gilled fungi, remove the stem, place the cap gills down upon a piece of paper, white, if the appearance of the mushroom seems to indicate any color of spores but white, black or dark colored paper, if the spores seem to be white. cover with a tumbler to prevent draughts of air, and in a short time the spores will be found upon the paper in fine radiating lines in appearance much like powder. If a permanent print is desired, gum the paper slightly (white of egg will answer if no other fixative is at hand), and the moisture of the fungus will soften the surface so that the spores will adhere to the paper.

To determine the various characteristics

of the spore other than the color, microscopical examination is necessary.

STIPE OR STEM.—The stem is usually fastened to the center of the cap, but species growing on wood frequently have the stem at one side of the center, *eccentric*, or at one side of the cap, *lateral*. When the stem is wholly wanting, the plant is said to be *sessile*. With regard to shape, the stem may be *equal*, *tapering upward*, *bulbous* at base, *rooting*.

In texture, it may be *fleshy*, *cartilaginous*; if the former it is *brittle*, if the latter, *tough*. The interior of the stem may be *solid*, that is fleshy throughout; *hollow*, when there is a cavity in the center; if *tubular*, in the center, it is known as *fistulose*; if filled with a pithy substance, it is *stuffed*. On the outside, the stem may be *smooth*, *shiny*, *scaly*, *dotted* with *granules (granular)*, may have a *twisted* appearance or be covered with a *network (reticulated)* or be *wrinkled (rugose)*.

VEIL.—In the early stage of the development of a mushroom the edge of the mar-

gin of the pileus lies very close to the stem. In some species the cap simply expands without having the margin of the cap united to the stem, but in a great many species the distance between the stem and cap is bridged by interlacing threads which form a veil covering the gills. As the cap expands, the veil is torn and remains in some form on the cap or stem or on both. When the veil is very delicate resembling a spider's web, it is said to be *arachnoid* and is also known as the *cortina;* if the veil tears away from the stem but hangs in flaky scales about the edge of the cap, it is *appendiculate;* whenever the texture of the veil is firm, it remains about the stem forming the

Annulus or Ring which is sometimes *movable* or *free;* fastened to the upper half of the stem, *superior;* lower half, *inferior.* Again the veil may be so delicate that it quickly vanishes as the cap expands or is evident only by a few fibres about the stem.

Volva.—In addition to the cap, gills, stem and ring, some mushrooms are enclosed in a cup-like receptacle attached to the lower end of the stem known as the volva

and from which the mushroom emerges. This characteristic is very important as the most poisonous varieties have the volva. In appearance the volva may be entire like a small cup in which the stem is set, and is spoken of as *free*, or it may consist of *concentric scales*, very regularly arranged; again the scales may be irregularly concentric; or *friable*, crumbling at touch, or in floccose scales, almost wanting.

In gathering specimens, it is of the utmost importance, that the whole of the stem is obtained, that the base may be examined for any trace of a volva.

When and Where Mushrooms Grow.

WHEN AND WHERE MUSHROOMS GROW.

Name	Place
March	
Collybia velutipes	on stumps and trunks of trees
Coprinus micaceus ...	about elm stumps and trees
April	
Naucoria semi-orbicularis	on lawns and grassy spots
Volvaria speciosa.....	" " grassy spots, gardens
Collybia velutipes	" stumps and trunks of trees
Coprinus micaceus	about elms stumps and trees
Morchella deliciosa.....	moist woods, orchards
Coprinus comatus	dumping grounds
May	
Marasmius oreades ...	lawns and grassy spots
Pholiota praecox	" " " "
Naucoria semi-orbicularis	" " " "
Coprinus atramentarius	" grassy spots, gardens
Collybia velutipes	on stumps and trunks of trees
Pluteus cervinus	" " and ground in woods
Coprinus micaceus ...	about elm trees and stumps
Coprinus comatus	dumping grounds

Morchella deliciosa.... moist woods, in orchards
Volvaria speciosa.....rich garden soil

June

Marasmius oreades ... lawns and grassy spots
Pholiota praecox ..... " " " "
Hypholoma appendiculatum ..... " " gardens
Panaeolus returigis ... " (newly made) dung
Naucoria semi-orbicularis ..... " and grassy spots
Amanitopsis vaginata . pastures and open woods
Clitocybe laccata ..... " " " "
Lactarius volemus .... " " " "
Entoloma clypeatum... " " " "
Stropharia semiglobata " about dung
Coprinus comatus .....dumping grounds
Amanita strobiliformis open woods and borders
Collybia radicata ..... " " " "
" dryophila .... " " " "
Clitopilus prunulus ... " " " "
Cortinarius corrugatus " " " "
Coprinus micaceus ....about elm stumps and trees
Collybia velutipes ....on trees and stumps
Omphalia campanella.. " " " "
Pluteus cervinus ..... " stumps and ground in woods
Fistulina hepatica .... " decaying chestnut trees
Polyporus betulinus .. " " birch trees
" brumalis .... " " trunks

July

Lepiota naucinoides ..
" procera ..... lawns, grassy spots, pastures
Marasmius oreades ... " " " "
Pholiota praecox..... " " " "
Hypholoma appendiculatum ..... " " " gardens
Panaeolus returigis ... " (newly made) dung
Amanita muscaria .... " pastures, open woods
" Frostiana ... " " " "
" crenulata .... " " " "
Clitocybe laccata ..... pastures and woods
Hygrophorus miniatus moist pastures and woods
Lactarius volemus .... pastures and woods
Entoloma clypeatum ..gardens and woods
Agaricus campester .. pastures
Stropharia semi-globota " about dung
Panaeolus solidipes ... " " "
Naucoria semi-orbicularis ..... " and lawns
Calvatia cyathiforme... "
Gyromitra hygrometricus ..... " on sandy soil
Coprinus comatus .... dumping grounds
Amanita phalloides ... open woods, occasionally in pasture
Amanita rubescens ... open woods
Scleroderma vulgare .. " " borders
Amanita excelsa ..... " " "

Amanitopsis vaginata	open woods, borders
Strobilomyces strobilaceous	" " "
Amanita Caesaria	" "
Tricholoma personatum	" "
Collybia radicata	" "
" dryophila	" "
Lactarius piperatus	" "
Russula foetens	" "
" fragilis	" "
" emetica	" "
" purpurina	" "
" virescens	" "
" roseipes	" "
Cantherellus cibarius	" "
Clitopilus prunulus	" "
Cortinarius corrugatus	" "
Boletus castaneus	" "
Polystictus perennis	" "
Calvaria flava	" "
" cinerea	" "
" cristata	" "
Leotia lubrica	" "
Agaricus silvaticus	" "
Hypomyces lactifluorum	woods where Lactarii are found
Peziza badia	along woody roads
Craterellus cornucopoides	pine woods, gravel banks

Hydnum repandum ... woods about stumps
Collybia velutipes .... on stumps and trunks of trees
Omphalia campanella.. " " " " " "
Pluteus cervinus ..... " " and ground, open woods
Coprinus micaceus ... about elm stumps and trees
Fistulina hepatica .... on decaying chestnut trees
Polyporus betulinus .. " " birch trees
" brumalis .... " " trees

August

Lepiota naucinoides .. lawns and pastures
Marasmius oreades.... " " "
Hypholoma appendiculatum ..... " gardens
Panaeolus returigis ... " (newly made) dung
Lepiota procera .....pastures
Lycoperdon pyriforme " along roadsides
Calvatia gigantea ..... "
" cyathiforme . " along roadsides
Gyromitra hygrometricus ..... " on sandy soil
Pezi[illegible]adia ..... along roads and woody paths
Nat[illegible]s semi-orbicu[illegible]s .....grassy spots
Agaricus campester .. pastures
Stropharia semi-globata " about dung
Panaeolus solidipes.... " " "
Coprinus comatus .... dumping grounds
Amanita phalloides ... pastures, occasionally, in woods

Amanita muscaria	shady	lawns,	pastures
" Frostiana ...	open	woods,	pastures
" rubescens ...	"	"	
" Caesaria	"	"	
" excelsa	"	"	
Amanitopsis vaginata..	"	"	
Armillaria mellea	"	"	
Tricholoma personatum	"	"	
" russula	"	"	
Clitocybe laccata	"	"	
Collybia radicata	"	"	
" dryophila	"	"	
" confluens ...	"	"	
Mycena galericulata ..	"	"	
Hygrophorus miniatus	"	"	(moist spots)
Lactarius volemus	"	"	
" piperatus ...	"	"	
Russula foetens	"	"	
" fragilis	"	"	
" emetica	"	"	
" purpurina ...	"	"	
" virescens	"	"	
" roseipes	"	"	
Cantharellus cibarius .	"	"	
Pluteus cervinus	"	"	
Entoloma clypeatum ..	"	"	
" rhodopolium .	"	"	

Clitopilus prunulus ... open woods
Cortinarius violaceus . " "
" cinnabarinus " "
" cinnamomeus " "
" corrugatus .. " "
Agaricus silvaticus ... " "
Boletinus pictus ..... mixed woods
" porosus ..... " " lawns, pastures
Boletus flavidus ..... " "
" Americanus . " "
" granulatus .. " "
" badius ..... pine woods
" bicolor ..... woods and open spots
Boletus variegatus .... pine woods
" ornatipes .... open woods
" scaber ..... woods, open spots
" chrysentereon " " "
" edulis ..... " " "
" chromapes ... " " "
" felleus ..... " about stumps
" castaneus ... " open spots
Strobilomyces strobi-open woods
laceous .....
Hydnum imbricatum . pine woods
" repandum ... woods and pastures
Polystictus perennis .. pine woods
Craterellus cornucopoides ..... pine woods, gravel banks

Clavaria flava ..... open woods
" cinerea ..... " "
" cristata ..... " "
Leotia lubrica ..... " "
Clitocybe gilva ..... " "
Hypomyces lactifluorum ..... woods where Lactarii grow
Scleroderma vulgare .. open woods
Collybia velutipes .... stumps and trunks of trees
Omphalia campanella . " " " " "
Pleurotus ostreatus .. on elm and maple trees
Pholiota squarrosa ... stumps and trunks of trees
Coprinus micaceus ... about elm stumps and trees
Fistulina hepatica .... on chestnut trees
Polyporus sulphureus . " trees and stumps
" betulinus ... " birch trees
" brumalis ..... " decaying trees

September

Hypholoma appendiculatum ..... lawns and gardens
Coprinus atramentarius " " "
Lepiota naucinoides .. " " grassy spots
Marasmius oreades ... " " pastures
Naucoria semi-orbicularis ..... pastures, grassy spots
Agaricus campester .. "
Stropharia semi-globata " about dung
Lepiota procera ..... "

Calvatia gigantea	pastures, alond roadsides
" cyathiformis..	" " "
" craniiformis..	"
Peziza badia	along woody roads
" aurantia	on open ground
Amanita phalloides ..	pastures, , occasionally woods
" muscaria	shady lawns, open woods
" Frostiana .	open woods, pastures
" rubescens ...	" "
" Caesaria	" "
" excelsa	" "
Amanitopsis vaginata .	" "
Cortinarius violaceus .	" "
" cinnabarinus	" "
" cinnamomeus	" "
" corrugatus ..	" "
Lycoperdon pyriforme	" "
Hypholoma perplexum	" " ground and stumps
" sublateritium	" " " " "
Clitocybe illudens	" " " " "
" laccata	" "
Sparassis crispa	" " on stumps
Armillaria mellea	" "
Tricholoma personatum	" "
" russula	" "

Tricholoma sejunctum	open	woods	
Collybia radicata	"	"	
" confluens ...	"	"	
" dryophila	"	"	
Mycena galericulata ..	"	"	on wood and leaves
Boletinus pictus	mixed	woods	
" porosus	"	"	lawns, pastures
Boletus flavidus	"	"	
" Americanus .	"	"	
" granulatus ..	"	"	
" badius	"	"	(generally pine)
" bicolor	"	"	and open spots
" variegatus ..	"	"	
" ornatipes ...	"	"	
" scaber	"	"	
" chrysentereon	"	"	
" edulis	"	"	
" chromapes ..	"	"	
" felleus	"	"	about stumps
" castaneus ...	"	"	
Strobilomyces strobilaceous	"	"	
Hydnum imbricatum ..	"	"	
" repandum ...	woods	and pastures	
Polystictus perennis ..	mixed	woods	

Hygrophorus miniatus	woods in moist spots
Lactarious volemus	woods
" piperatus	"
Russula foetens	"
" fragilis	"
" emetica	"
" purpurina	"
" roseipes	"
Entoloma rhodopolium	"
" clypeatum	"
Clitopolus prunulus	"
Craterellus cornucopoides	" (pine) gravel banks...
Clavaria flava	"
" cinerea	"
" cristata	"
Leotia lubrica	"
Hypomyces lactifluorum	" where Lactarii grow
Schleroderma vulgare	"
Omphalia campanella	on stumps and trunks of trees
Pleurotus ostreatus	" elm and maple trees
" sapidus	" decaying deciduous tress
Pluteus cervinus	" stumps
Pholiota squarrosa	" " and trunks of trees
Coprinus micaceus	about elm trees and stumps
Polyporus sulphureus	on stumps and trunks of trees
" betulinus	" birch trees
" brumalis	" decaying trees

October

Marasmius oreades ... lawns and pastures
Hypholoma appendiculatum ..... " " gardens
Coprinus atramentarius " " "
Naucoria semi-orbicularis .....grassy spots
Agaricus campester .. pastures
Stropharia semi-globata " about dung
Lycoperdon pyriforme . " along roadsides
Calvatia cyathiformis.. "
" gigantea .... " " "
Peziza aurantia .....on open ground
Coprinus comatus .... dumping grounds
Amanita phalloides ... pastures, occasionally, open woods
" muscaria ... " lawns
" excelsa .....open woods
Armillaria mellea ..... " "
Tricholoma personatum " "
" russula ..... " "
" sejunctum .. " "
Clitocybe laccata .....woods, pastures
Lactarius volemus .... " "
" piperatus ... "
Entoloma clypeatum .. " "
Cortinarius violaceus . "
" cinnabarinus.. "
Calvatia craniformis .. woods
Hydnum repandum ... "

Polystictus perennis .. "
Scleroderma vulgare .. "
Coprinus micaceus ... about elm stumps and trees
Collybia velutipes .... on stumps and trunks of trees
" confluens ... in open woods
Mycena galericulata .. " " " on stumps and leaves
Pholiota adiposa ..... in open woods on leaves and stumps
Omphalia campanella . on stumps and trunks of trees
Pleurotus ostreatus ... " elm and maple trees
" " " decaying deciduous trees
Hypholoma perplexum " stumps and ground in open woods
" sublateritium on stumps and ground in open woods
Sparassis crispa ..... on stumps in open woods
Clitocybe illudens .... " " and ground in woods

November

Coprinus atramentarius lawns and gardens
Hypholoma perplexum in woods on ground and stumps
" sublateritium in woods on ground and stumps
Collybia velutipes .... on stumps
Pleurotus ostreatus ... " elm and maple trees
" sapidus ..... " decaying cediduous trees
Polyporus sulphureus . " trees and stumps
" betulinus ... " birch trees
" brumalis .... " decaying trees

How to Collect Mushrooms and How to Prepare Them for the Table.

The equipment for a mushroom hunt is simple, consisting of two splint baskets which may be obtained at a grocers for five or ten cents; one basket to be used for specimens selected for analysis, the other for the mushrooms desired for the table; several small tin or paper boxes for fragile specimens; an ordinary kitchen knife; several sheets of tissue paper with which to wrap delicate specimens. Ferns and brakes make one of the best material to pack about the specimens. Place a generous layer on the bottom of the basket, then when a layer of mushrooms is completed, cover them with ferns, and continue till the basket is filled; the ferns are so light that the mushrooms are never crushed, and the moisture tends to keep the mushrooms fresh. It is a good plan to carry a note-book and several loose sheets for data. In the note book, record the date, name of species, under the head of the locality, which gives one an excellent guide book to mushroom haunts.

A copy of the sheets provided by the Boston Mycological Club follows. These can be purchased from the Club at a nominal sum.

TOADSTOOLS—FIELD NOTES*

Date .....*No* .....
Collected at..... after,
during, dry, wet, weather by .....
.....

Habitat; on ground, high, low, wet, rich, poor, loamy, clayey, sandy, gravelly; on fallen leaves, twigs, branches, logs, dead, living wood; in open, sparsely-wooded, pasture, field, lawn, roadside, swamp, dense, open, evergreen, deciduous, mixed woods, under .....trees.

Plant; solitary, gregarious, caespitose, not rooting; taste.....; odor .....

Cap; dry, moist, hygrophanous, viscid; color, young ..... old ..... at first pruinose—pulverulent—farinaceous—furfuraceous, above, below, then naked.

Gills; color.....young.....old.....
concolorous, staining when bruised.

Milk; color..... not changing; to.....;

taste, mild, acrid.
Veil; none, evanescent, appendiculate, arachnoid, thin, thick, not viscid; color.....
Ring; none, trace, evanescent, fragile, firm, persistent, not viscid, glutinous, not movable, superior, inferior, medial.
Volva; none, evanescent, fragile, not forming wa[illegible] tough, membrane, persistent, free, a[illegible]ed.
Spores; color.....
Additional Notes .....
.....
*Check with an oblique line each term used.

In gathering specimens for identification and analysis, great care must be employed to obtain the whole specimen. If the specimen is to be carried home for analysis, it is well to number the blank, filling out the data as far as possible on the spot, then slip a corresponding number on the stem of the mushroom to avoid confusion.

Mushrooms, like flowers, are found in various places; some prefer sandy soil, others moist shady spots; some are found in the early spring time, others not until summer or fall.

To gather mushrooms for the table, select only the fresh specimens, remove the cap from the stem thus avoiding the earth that is liable to cling to the base of the stem. If possible, never wash a mushroom, wipe it with a dry flannel cloth. If it is necessary to wash them, place in a colander so that they will drain well. The mushroom itself contains such a large percentage of water that any addition serves to dilute the flavor.

Never eat mushrooms until you are certain of their identity. The simplest and most satisfactory method to cook Coprini Agarici, Russulae, Clavariae, is as follows: Place a piece of butter in a sauce pan and after it is melted add the mushrooms, season with salt and pepper, cover closely and let cook eight to ten minutes; serve hot on toast or beef steak. If the caps are very large, break in pieces. The large caps are, however, more satisfactory broiled. But ter the broiler before placing the mushrooms on it then broil for five to eight minutes, season and serve very hot.

The Chanterelles and Lactarii demand longer cooking than the above species.

They may be cooked as above or stewed gently for twenty minutes, then turn off the surplus water and cover them with a rich cream sauce.

Mushrooms having a strong flavor such as Coprinus comatus, Lepiota naucinoides, make a more palatable dish if served as a scallop, using a layer of cracker crumbs, a layer of small pieces of mushrooms, seasoned with butter, pepper and salt, until the baking dish is full. Pour over this sweet milk and bake in a moderate oven about three-quarters of an hour.

Baked mushrooms are prepared as in the first receipt and the result is much the same. Always cover a mushroom while it is cooking as the flavor escapes otherwise.

To cook morels, split them open, fill the center with minced chicken veal or beef, press together and bake for three-fourths of an hour.

To cook puff balls, pare, slice in thick slices, dip in beaten egg and fry in butter. The result is a delicious omelet.

To dry Marasmius oreades and Boleti, remove the stems from the first, the stems and pores from the latter; place them

where the sun will shine on them and in a few days they may be packed in tin cans. To use the dried mushrooms, soak in water about twenty minutes then cook as if they were fresh.

GUIDE

TO THE

MUSHROOMS

ILLUSTRATED

1. Amanita phalloides
2 Amanita excelsa

AMANITA phalloides. (Fr.) "Phallus-like."

Cap.—3 to 4 inches broad, commonly white or lemon yellow, oval, bell-shaped, later expanded, covered with thin viscid skin, rarely sprinkled with one or two wartlike fragments of the volva, margin even.

Flesh.—White.

Gills.—Rather broad, free, rounded behind, white.

Spores.—Globular, white.

Stem.—3 to 5 inches long, 1-2 inch or more thick, lower part solid and bulbous, upper part hollow and tapering, white.

Ring.—On upper part of stem (superior) generally whole and white.

Volva.—More or less buried, bulbous, bursting open in a torn manner about the stem and partially free from it.

Odor.—Somewhat foetid.

Habitat.—In woods, occasionally in pastures, growing singly, frequent from July to November. Very frequent in all sections of the United States.

Very poisonous.

AMANITA excelsa. (Fr.) excelsus, tall.

Cap.—4 to 5 inches broad, brownish gray, disc

1. AMANITA PHALLOIDES
2. AMANITA EXCELSA

darker, globose, then plane, skin thin, separating, sprinkled with unequal whitish warts the remains of the volva. Margin even, at first, later furrowed.

Flesh Soft, white, unchangeable.

Gills. Free broad, ventricose, rounded behind, white.

Spores.—Elliptical, white.

Stem.—4 to 6 inches long up to 1 inch thick; at first stuffed, later hollow; bulbous at base, covered generally as far as ring with concentric scales formed from the torn skin of stem.

Ring.—Superior, large, at length torn.

Volva.—Marginate, buried in the soil, somewhat rooting. *Odor.*—Not strong.

Habitat.—In woods, growing singly July to November. quite frequent in all sections of U. S.

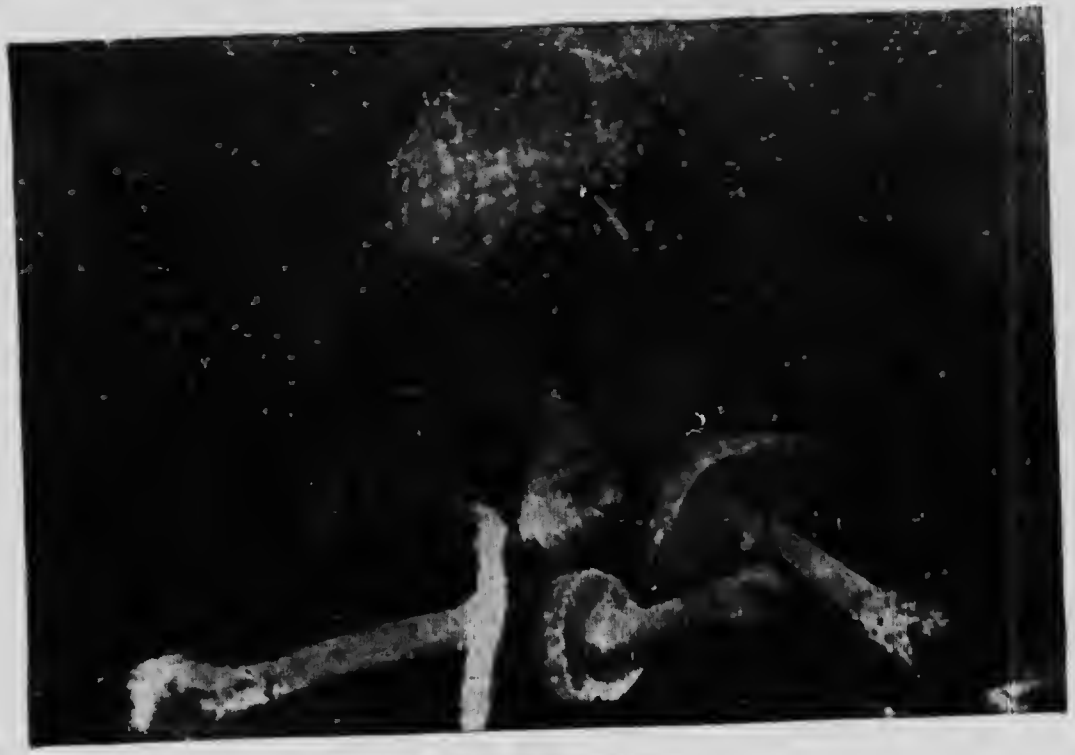
Poisonous.

AMANITA muscaria. (Linn.) from musca meaning a fly. Common Name "Fly Amanita."

Cap.—4 inches or more broad, deep orange in centre, lighter near margin, fading as it grows older; globe shaped, then convex and at last flat; covered with a skin which is viscid in moist weather and sprinkled with thick white, fragments of the volva, margin slightly striate.

Flesh.—White, tinged with yellow just below the skin.

Gills.—Free, crowded, broader in front, white or tinged with yellow.



Amanita muscaria

Scores.—Elliptical, white.

Stem.—5 to 8 inches long, one half inch thick, lower part bulbous, stuffed, then hollow, shining white.

Ring.—On apex of the stem, very soft, torn, white.

Volva.—Forms a margin to the bulb on the stem in concentric scales. *Odor.*—Not noticeable.

Habitat.—In pine woods, or on lawns under pine trees, growing singly, frequent, from July to November. Very common. Very poisonous.

AMANITA Frostiana (Pk.) Named for C. C. Frost.

Cap.—1 to 2 inches broad, orange yellow, fading to white at margin; convex then flat; dry, sprinkled with flakes of white volva, called warts; margin striate.

Flesh.—White.

Gills.—Free, white or barely tinged with yellow. *Spores.*—Globular, white.

Stem.—2-3 inches long, 1-4 inch thick, bulbous, stuffed, yellowish.

Ring.—On upper part of stem (superior), disappearing in mature specimens, yellowish white.

Volva.—Very indistinct, appearing in yellowish, wooly scales at base of stem.

Odor.— Not strong.

Habitat.—In open woods, occasionally in pastures, growing singly, July-September. Found in all sections of United States.

Poisonous.—Distinguished from A. muscaria by its size, which is much smaller than A. muscaria.

AMANITA RUBESCENS
(Blushing Amanita)

AMANITA rubescens (Pers.) from rubesco to become red. "Blushing Amanita."

Cap.—4 inches and more broad, dingy reddish, convex at first then flat; fleshy, moist but not viscid in wet weather, covered with soft mealy, whittish warts, sometimes perfectly smooth, margin even.

Flesh.—Soft, streaked with red and turning red wherever bruised.

Gills.—Very broad, reaching to the stem with a slight decurrent tooth; thin, crowded, soft, whitish streaked with red. *Spores.*—Elliptical white.

Stem.—4-5 inches long, and up to one inch thick; base solid, somewhat bulbous; upper part stuffed, streaked with red.

Ring.—On upper part of the stem (superior), large, soft, white.

Volva.—Rather indistinct, apearing in reddish scales at the base of the stem.

Odor.—Scarcely any. *Taste.*—Mild, agrecable.

Habitat.—Pine woods, also pastures; generally growing singly, but in large patches; frequent from July to September. Very common in New England.

Edible.—Very delicious.

AMANITA RUBESCENS (Blushing Amanita)

AMANITA Caesaria (Scop.) "King-like." "Orange Amanita."

Cap.—3-8 inches broad, brilliant red in centre, yellow toward edge in mature plants; young specimens generally red to margin; hemispherical, then

flat, smooth, shiny; generally dry; margin very striate.

Flesh.—Delicate yellow.

Gills.—Free, yellow.

Spores.—Elliptical, white.

Stem.—4-6 inches long, base up to 3-4 inch thick, tapering upward; stuffed, yellowish.

Ring.—On upper part of stem (superior), large white, sometimes tinged with yellow.

Volva.—Very distinct, large, shining, white.

Odor.—Mild.

Taste.—Agreeable, mild.

Habitat.—Open woods, generally growing singly, not frequent, from July-September. Found in all sections of United States but not common.

Edible.—One of the most highly prized. Care should be taken, however not to confuse this with A. muscaria or A. Frostiana which are poisonous. The two latter closely resemble A. Caesaria in the yellow tinge of the stem and gills; the differences are,—A. muscaria and A. Frostiana have wart-like patches on the cap, a smaller ring which breaks up as the mushroom matures and the volva is never distinct and is of a yellowish tinge of color.

AMANITA crenulata. (Pk.)

Cap.—1-4 inches broad, ovate, then convex, at length plane with slight depression in center; thin skin, slightly viscid at first with patches of volva

AMANITA CAESARIA
(Orange Amanita)

AMANITA CRENULATA

adhering, which soon disappear leaving the skin smooth and dry; margin striate. Color delicate buff inclining to yellowish white.

Flesh.—White, thin, soft.

Gills.—Free, white, notched on the edges (crenulate).

Spores.—Broadly elliptic, white.

Stem.—2-4 inches long up to 1-2 inch thick, equal, stuffed, then holow, smooth, bulbous.

Ring.—Very slight, soon wholly wanting.

Volva.—Very slight.

Odor.—Mild.

Habitat.—Open pine wods, lawns, pastures, frequently growing singly, July to October. Reported in New England.

Not tried for edibility.

It might easily be taken for a species of Amanitopsis on account of the very slight ring, which is often wanting in mature specimens.

AMANITOPSIS vaginata (Roze) from vagina—a shield.

Cap.—2-5 inches broad, convex, then plane, sometimes with a knob at the center, (umbonate), thin, fragile, glossy, smooth; color variable, generally mouse gray, sometimes tawny yellow and also date-brown; deeply and distinctly striate.

Flesh.—White, but in the dark forms, grayish under the skin.

Gills.—Free and white .

AMANITOPSIS VAGINATA
(partially grown.)

Spores.—Globular and white.

Stem.—3-5 inches long, white, sometimes smooth but generally mealy, hollow, or stuffed with a cottony pith, not bulbous.

Ring.—None.

Volva.—Long, thin, fragile, closely sheathing the stem yet free from it.

Odor.—Mild.

Taste.—Mild.

Habitat.—Woods and pastures, frequent, growing singly from June to frost.. Very frequent in all sections of the U. S. Reported edible, but because of the similarity of several species of Amanitas, the ring of which soon vanishes leaving it the appearance of the Amanitopsis, it should be avoided.

LEPIOTA procera (Scop.) from procerus, tall "Parasol Mushroom."

Cap.—3 to 7 inches broad; color brownish, egg shaped then flat; rough, with brown scales except in the center which has a dark brown umbo margin, very thin, to which fragments of the veil adhere.

Flesh.—Rather thin, white.

Gills.—Free, very distant from stem, broad, brownish white in hue.

Spores.—Elliptical, white.

Stem.—5 to 8 inches long, up to 1-2 inch thick, slightly bulbous at base, tubular; flesh distinct from that of cap, white, covered with brownish scales.

LEPIOTA PROCERA
(Parasol Mushroom)

Ring.—On upper part of stem (superior), movable, remaining whole, white.

Volva.—None.

Odor.—Agreeable.

Taste.—Agreeable, nutty.

Habitat.—Pastures, growing singly, quite common. July-September. Frequent in New England.

Edible.—Very delicious. Dries readily, reviving when soaked in water.

LEPIOTA naucinoides. (Pk.) "Smooth Lepiota."

Cap.—1 to 3 inches broad, hemispherical then expanding, smooth, soft, snowy white; margin, cracking and turned up over the cap.

Flesh.—Firm, white, thick.

Gills.—Free, white, slowly changing with age to a dirty pinkish brown.

Spores.—Sub-elliptical, white.

Stem.—2 to 3 inches long, 1-4 to 1-2 inch thick at the base; white, stuffed with fibres, and later hollow; tapering upward, distinctly bulbous.

Ring.—About the center of the stem, attached to stem, outer edge thicker; as the plant ages, the ring is often missing but traces of it are always discernible, white.

Volva.—None.

Odor.—Strong.

Taste.—Strong.

Habitat.—Lawns and pastures from July till

(Parasol Mushroom)

LEPIOTA NAUCINOIDES
(Smooth Lepiota)

frost. Very common in central sections of United States in early fall.

Edible.—Great care must be taken not to confuse this mushroom with A. phalloides. In the Lepiota the bulb and stem are continuous, ring smaller, gills turn brownish with age. In the Amanita the junction of the bulb and stem is abrupt, bulb more or less enclosed in a volva, ring larger, gills always white. The Amanita is very rarely found in pastures or grassy spots, the Lepiota is rarely found in woods.

ARMILLARIA mellea (Vahl.) from melleus, color of honey. "Honey Mushroom."

Cap.—1 to 4 inches, broad, convex, dry, varying from smooth to tufted with blackish scales or hairs, varying in color from light yellow to a reddish brown; margin at first slightly curevd under, sometimes striate and split along the edges. One of the most variable mushrooms, yet when once determined, easy of recognition.

Flesh.—Rather tough, thin, whitish.

Gills.—Extending down the stem (decurrent), rather crowded, thin, creamy white, streaked with brown when mature.

Spores.—Elliptical, white.

Stem.—1 to 4 inches long, up to 3-4 inch thick,

(Smooth Lepiota)

ARMILLARIA MELLEA
(Honey Mushroom)

variable in shape from bulbous to even; colored like cap, some shade of brown, becoming hollow

Ring.—Very slight vanishing as the plant matures.

Volva.—None.

Odor.—Nutty.

Taste.—Nutty.

Habitat.—In open woods, in large clusters frequent from August till frost. Common over the United States.

Edible.—In spite of its toughness, it cooks readily and has an especially good flavor. Dries readily receiving when soaked in water.

TRICHOLOMA personatum (Fr.) "wearing a mask," from its many colors.

Cap.—2 to 4 inches broad, thick, convex or plane, moist, smooth, variable in color from a pale ash to a violet, margin at first turned under over the gills, later rounded in the opposite direction.

Flesh.—Whitish.

Gills.—Free, rounded behind, broad, crowded, violet in color, becoming dingy brown with age.

Spores.—Sub-elliptical, regular in shape, dingy white.

Stem.—1 to 3 inches long, 1-2 inch thick at the base; generally thick bulbous, solid; frosted with fine hairs and colored like the cap.

Ring.—None.

Volva.—None.

TRICHOLOMA PERSONATUM

Odor.—Not strong.

Taste.—Mild.

Habitat.—Woods and open places, growing from old rotten, stable straw, singly or in clusters; common from July to October, all over the United States.

Edible.—

TRICHOLOMA russula (Schaeff.) from Latin meaning reddish.

Cap.—2 to 4 inches broad, thick, convex then expanded, finally depressed; viscid, streaked with red, paler toward margin which is thick at first, splitting as it ages.

Flesh.—White, tinged with red, quite thick, solid.

Gills.—Extending down the stem (decurrent) not crowded, whitish, tinged with red.

Stem.—1 to 3 inches long, up to 3-4 inch thick, slightly bulbous, solid, very fibrous; colored like the cap, white, streaked with red.

Ring.—None.

Volva.—None.

Odor.—Mild.

Taste.—Mild.

Habitat.—Open woods, generally growing singly, frequent, from August till frost. Very common in New England.

Edible.—Of good flavor.

TRICHOLOMA SEJUNCTUM

TRICHOLOMA sejunctum (Sow.)

Cap.—4 inches broad, convex, then expanded, slightly umbonate, viscid when moist, yellowish white, streaked with dark threadlike fibrils; irregular in shape; margin, thin, uneven.

Flesh.—White, very fragile.

Gills.—Notched near stem from which they are easily separated, their distinguishing characteristic, hence the name sejunctum, broad, rather distant, white.

Spore.—Subglobose, white.

Stem.—1 to 3 inches long 3-4 inches thick, solid, smooth, irregular in shape, white.

Ring.—None.

Volva.—None.

Odor.—Mild.

Taste.—Mild.

Habitat.—Open woods, September and October, not very common, growing singly, in eastern and central sections of United States.

Edible.—

CLITOCYBE laccata (Scop.)

Cap.—1-2 to 2 inches broad, thin, convex, later expanded and wavy, sometimes with a slight umbo or knob in the center; smooth or minutely scaley, of a watery appearance when moist; varying in

CLITOCYBE LACCATA

color from a delicate tan to a dark brown and from a light violet to a dark purple. Cap and gills powdered with minute whitish scales, resembling somewhat the threads of a spider's web. Margin wavy in the cap of full growth.

Flesh.— Whitish.

Gills.—Broad, rather thick and distant, attached to the stem, (adnexed) and flesh colored.

Spores. —White.

Stem.—1 to 3 inches, long, slender, firm, fibrous, stuffed with fibres equal and of the same color as the cap.

Ring.—None.

Volva.—None.

Odor.—Mild.

Habitat.—Woods and pastures; a very variable and very abundant species, growing singly or in clumps, from June to October. Common everywhere.

Edible.—

CLITOCYBE illudens (Schw.) mocking, deceiving.

Cap.—3 to 5 inches broad, convex then expanded, slightly depressed with a small umbo in the center, smooth, dry, margin revolute, wavy, thin; bright yellow in color.

Flesh.—Quite thick, firm, yellow.

Gills.—Distant, decurrent, branched, yellow like cap.

COLLYBIA RADICATA
CLITOCYBE ILLUDENS

Spores.—Spores nearly round, white.

Page 69.—

Stem.—5 to 8 inches long, up to 1-2 inch thick, firm, smooth, tapering at base, colored like cap.

Ring.—None.

Volva.—None.

Odor.—Rather Strong.

Taste.—Mild.

Habitat.—In open woods, also in pastures about stumps, growing in large clusters, very showy, common in September and October. In central and eastern sections of the United States.

CLITOCYBE gilva — (Pers.) gilvus, pale brownish yellow.

Not edible.—

Cap.—2 to 4 inches broad, convex, then nearly plane, even, smooth, brownish yellow; margin involute, rather thick even.

Flesh.—Rather firm, colored somewhat like cap.

Gills.—Decurrent, then crowded, branched, narrow, paler than cap.

Spores.—Elliptical, white.

Stem.—1 to 3 inches long up to 1-2 inch thick, solid, smooth, villous at base, attenuated at base, colored like cap.

Ring.—None.

Volva.—None.

Odor.—Mild.

Taste.—Mild.

Habitat.—In open woods, growing singly, August. Not frequent.

Edible.—

CLITOCYBE GILVA

COLLYBIA radicata. (Relh.) from radix, a root. "Rooted Collybia."

Cap.—1 1-2 to 4 inches broad, from convex to plane, with a broad knob in the center, (gibbous), frequently wrinkled toward the knob, glutinous when moist; color variable from light brown to dark brown when growing in the shade; margin incurved.

Flesh.—Thin, white and elastic.

Gills.—White, thick, tough, distant, with veins between, attached to the stem with a rounded notch like a tooth.

Spores.—Elliptical and white.

Stem.—4 to 6 inches long 1-4 to 1-2 inch thick at thick at the base, smooth, firm, tapering upward, twisted, with a long tapering root, same color as the cap.

Ring.—None.

Volva.—None.

Odor.—Mild.

Taste.—Mild.

Habitat.—In woods, sometimes in grassy places growing singly, quite common from June to October. Frequent in central and eastern United States.

Edible.—

COLLYBIA velutipes (Curt.) "Velvet Footed."

Cap.—1 to 3 inches broad, convex, soon becoming plane, often bent backward; color varying from a yellowish to a dark yellowish brown, the center being darker than the margin; sticky when moist; margin sometimes slightly lined.

COLLYBIA VELUTIPES

Flesh.—Watery, soft, yellowish white.

Gills.—Broad and rounded behind, slightly attached to the stem (adnexed), distant, unequal in length; faint buff color, growing deeper with age.

Spores.—White, elliptical.

Stem.—1 to 3 inches long and up to 3-8 inch thick at the base, very tough, twisted, equal, stuffed with fibres and later hollow, upper part yellowish, lower part black, densely velvety.

Ring.—None.

Volva.—None.

Odor.—Mild.

Taste.—Mild.

Habitat.—On stumps and roots, growing in clusters from May to November, with heavier caps in the fall. Very common in all sections of the country.

Edible.

COLLYBIA confluens (Pers.)

Cap.—1-2 to 2 inches broad nearly plane, smooth, tough, flaccid, reddish brown in center, lighter toward margin, fading in wet weather to grayish white; margin somewhat striate, thin, even.

Flesh.—Thin, white, dries much like Marasmius, reviving in water.

Gills.—Free, narrow, crowded, grayish-yellow.

Spores.—White, minute, ovate.

Stem.—1 to 4 inches long, up to 1-3 inch thick,

COLLYBIA CONFLUENS

equal, hollow, often flattened at top or throughout its entire length, darker in color than cap and clothed with a fine white down.

Ring.—None.

Volva.—None.

Odor.—Mild.

Taste.—Mild.

Habitat.—In tufts [illegible] its name; on ground in woods August to Oct[illegible] in eastern and central sections of United Sta[illegible] quite common.

Edible.

COLLYBIA dryophila (Bull.)

"Oak-Loving Mushroom."

Cap.—1 to 3 inches broad, plane, slightly depressed in the center, smooth, flexible, tough; margin at first turned in over the gills, then flattened; color dark brown becoming paler with age. Several varieties vary in form of stem being inflated, gills sulphur yellow, cap buff color, but the type characteristics are alike in all the species.

Flesh.—Thin, white.

Gills.—Crowded, narrow, slightly attached to stem, white.

Spores.—Spindle shaped. white.

Stem.—1 to 3 inches long and up to 1-4 inch thick at base, even, smooth, tube-like, with a small root of a reddish yellow color; base of stem sometimes enlarged.

COLLYBIA DRYOPHILA
(Oak-loving Mushroom)
MYCENA GALERICULATA

Ring.—None.

Volva.—None.

Odor.—Mild.

Taste.—Mild.

Habitat.—In pine and mixed woods, also open spots, very common, growing in clusters from June to September. Found in all sections of the United States.

MYCENA galericulata (Scop.) small peaked cap.

Cap.—Up to 2 inches broad, bell shaped campanulate then expanded, striate to the center, dry, smooth, dingy brown, becoming paler with age, margin thin wavy.

Flesh.—Thin, whitish, tough.

Gills.—Adnexed, attached to the stem by a tooth-like notch, crowded, connected with veins, whitish, then flesh yellow.

Spores.—White and globular.

Stem.—2-3 inches long, stiff, polished, even, with a spindle-shaped root at the base; colored like the cap.

Ring.—None.

Volva.—None.

Odor.—Mild.

Taste.—Mild.

Habitat.—On trunks and fallen leaves, very common, very variable, growing in clusters, the stems joined together with soft hairy down at the base. August to November. Found in all sections of the United States.

Edible.

(Oak-loving Mushroom)
MYCENA GALERICULATA

PLEUROTUS OSTREATUS
(Oyster Mushroom)

OMPHALIA campanella (Bateh), bell-shaped.

Cap.—Up to 3-8 of an ineh broad, very thin and rather tough, convex then depressed in the eenter, smooth, water-soaked in appearanee, when moist; of a rusty yellow color; margin lined when moist.

Flesh.—Very thin and colored like the skin of the eap, tough.

Gills.—Close, runing down on the stem (deeur rent), with veins between, yellow in eolor.

Spores.—White and elliptical.

Stem.—1 ineh long, firm, hollow, brown at the base with rough hairs, yellowish at the top.

Ring.—None.

Volva.—None.

Odor.—Mild.

Taste.—Mild.

Habitat.—On rotten stumps of trees, in elusters; very common in pine woods from June to November. Common over United States.

Edible.

PLEUROTUS ostreatus (Jack.)
"Oyster Mushroom."

Cap.—3 to 5 inches broad, shell-shaped, pale gray in eolor, growing yellowish-white with age, margin very thin and turned in at first over the gills, later wavy.

Flesh.—Thick, soft, white.

PLEUROTUS SAPIDUS

PLEUROTUS SAPIDUS

Pleurotus sapidus

Gills.—Running down on the stem, decurrent, somewhat distant, veined, broad, white, yellowish when aged.

Spores.—White.

Stem.—Short, growing from the side of the cap (lateral), firm elastic, smooth, thickening toward cap, whitish.

Ring.—*None.*

Valva.—None.

Odor.—Quite mild.

Taste.—Rather strong, when cooked resembling the flavor of oysters.

Habitat.—On decaying trunks of oaks, maples, elms and poplar trees. Growing in large clusters. Very common from August to November. Found in all sections of the United States.

Edible.—Requires slow gentle cooking. Dries well, reviving when soaked in water.

PLEUROTUS sapidus (Kalchb.), from the Latin, savory.

Cap.—1 to 3 inches broad, convex, sometimes depressed in mature specimens, smooth, variable in form from its mode of growth in crowded clusters, varying in color from white to yellowish, ashy-gray, lilac, and brownish. Margin is incurved when young, often wavy in age.

Flesh.—Rather thin, solid, white, tough.

Gills.—Rather broad, distant, running down the

HYGROPHORUS MINIATUS

stem (decurrent) often cracked in mature specimens; colored like the cap.

Spores.—Oblong, pale lilac which is the distinguishing characteristic of this mushroom and enables one to distinguish it from P. ostreatus.

Stem.—1 to 2 inches long, up to 1-2 inch thick, solid, firm, smooth, tough, white; attached to the side of the cap, though in some specimens it grows nearly in the center.

Ring.—None.

Volva.—None.

Odor.—Agreeable.

Taste.—Mild.

Habitat.—Decaying trunks, or bruised spots of deciduous trees, very frequent, growing in large clusters September to frost.

Edible.

HYGROPHORUS miniatus (Fr.) from minium, meaning red lead.

Cap.—1-2 to 2 inches broad, thin, fragile; at first convex then nearly plane, smooth, bright red in color; sometimes yellow on the margin, margin wavy and, in full grown cap, cracked toward the center of the cap; watery in appearance.

Flesh.—White, thin, quite firm, tender.

Gills.—Yellow sometimes tinged with red, distant, growing to the stem (adnate).

LACTARIUS VOLEMUS

Spores.—Elliptical, white.

Stem.—1 to 2 inches long, slender, smooth, fragile and of the same color as the cap.

Ring.—None.

Valva.—None.

Odar.—Not noticeable.

Taste.—Delicate.

Habitat.—In moist woods, growing in groups from July to October. Found in all sections of the United States.

Edible.—One of the most delicately flavored.

LACTARIUS volemus (Fr.) from volema and pira meaning a kind of large pear.

Cap.—2 to 5 inches broad, convex, then nearly plane, with the center slightly depressed, moist later, dry; firm, brownish orange, in the full grown cap the skin is often cracked into patches, margin even, later wrinkled and mottled.

Flesh.—White, thick, and containing a sticky white milk with a mild taste.

Gills.—Growing to the stem and slightly attached by a small tooth-like notch, close, whitish, becoming stained with brown when bruised, broad, crowded, thin.

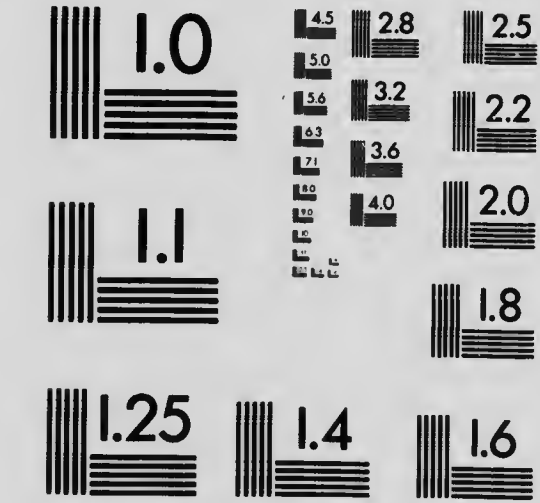
Spores.—Globular, white.

Stem.— 1 to 4 inches long, nearly 1 inch thick, solid, slightly tapering upward, smooth, colored like the cap.

Ring.—None.

MICROCOPY RESOLUTION TEST CHART

(ANSI and ISO TEST CHART No. 2)



APPLIED IMAGE Inc

1653 East Main Street
Rochester, New York 14609 USA
(716) 482 - 0300 - Phone
(716) 288 - 5989 - Fax

LACTARIUS PIPERATUS

Volva.—None.
Odor.—Mild.
Taste.—Mild.
Habitat.—Woods and pastures, growing singly, very common from June to Nov. in all sections of the U. S.
Edible.—Requires slow, gentle cooking.

LACTARIUS piperatus (Fr.) from piper a pepper.

Cap.—4 to 9 inches broad, when young convex, when fully grown funnel-shaped, firm, dry, white, and smooth; margin at first curved in over the gills, later wavy.

Flesh.—Thick, white. The flesh of the genus lactarius contains a milky fluid which exudes, whenever the fungus is bruised or broken. The milk of the piperatus is white, changing very slowly to a yellow and is very plentiful and peppery to the taste.

Gills.—Crowded, narrow, thicker at the edge, white, with here and there yellow spots, where the milk has stained the gills.

Spores.—Nearly globular, white.

Stem.—1 to 2 inches long, 1 to 2 inches thick, solid, generally equal, white.

Ring.—None. *Volva.*—None.
Odor.—None. *Taste.*—Acrid.
Habitat.—In woods from July to Oct., growing singly; common in New Eng.
Edible.—With cooking the acrid taste disappears.

LACTARIUS SUBDULCIS

LACTARIUS subdulcis (Fr.) from the Latin, somewhat sweet.

Cap.—1-2 to 2 inches broad, slightly convex with tiny umbo, at length plane and slightly depressed, zoneless, smooth, dry, brownish-red; margin even.

Flesh.—Thin, fragile, pinkish-gray.

Milk.—White, not very plentiful, mild in taste, tardily acrid.

Gills.—Narrow, thin crowded, sub-decurrent, colored like cap but lighter tinge.

Spores.—White, oblong.

Stem.—Up to 1-4 inch thick, hollow, colored like pileus, equal, smooth, slightly downy at base.

Odor.—Mild.

Taste.—Mild.

Habitat.—In swamps and damp ground July to October, very common.

Edible.

RUSSULA purpurina (Schulz.), meaning purple.

Cap.—1 1-2 to 2 1-2 inches broad, hemispherical, later plane and at last depressed in the center, slightly glutinous in wet weather, skin easily separating from the cap, dark reddish purple paling a little with age; margin thin and even.

Flesh.—Thick, white, reddish under the skin, very brittle, mild taste.

RUSSULA PURPURINA

Gills.—Growing to the stem, crowded, at first white, later yellowish, rather broad, almost equal, thick.

Spores.—White, globose, minutely warted.

Stem.—1 to 1 1-2 inches long and up to 1-2 inch thick, spongy, slightly tapering toward the base and apex, rose-pink in color which fades with age.

Ring.—None.

Volva.—None.

Odor.—None.

Habitat.—In woods from July to October growing singly; quite common in New England.

Edible.

RUSSULA foetens. (Fr.) from foetens, meaning stinking.

Cap.—4 to 5 inches broad or more, globular, there expanded and depressed; covered with a glutinous, separating, brownish-yellow skin; margin at first bent in over the gills, then very striate.

Flesh.—Thin, soft, pale yellow.

Gills.—Attached to the stem (adnexed) crowded, with veins, forked at first white, exuding watery drops, later colored like the cap.

Spores.—White, globular.

Stem.— 2 to 4 inches long and up to 1 inch thick at the base; color like the cap.

RUSSULA FOETENS

Ring.—None.

Volva.—None.

Odor.—Foetid, very disagreeable.

Taste.—Very bitter.

Habitat.—In woods and open places, very common in New England from July to October growing singly.

Not edible.

RUSSULA emetica (Fr.) an emetic.

Cap.—3 to 4 inches broad, at first bell-shaped, then plane and depressed in the center, smooth, at first rose color, fading to yellow when old; margin lined and warty.

Flesh.—Brittle, white, reddish underneath the separating skin.

Gills.—Nearly free, broad, somewhat distant, white.

Spores.—Spherical, white.

Stem.—1 to 3 inches long, stout, stuffed with fibres, white, with sometimes a tinge of red.

Ring.—None.

Volva.—None.

Odor.—Mild.

Taste.—Very acrid.

Habitat.—In open woods, common all over the United States, growing singly from July to October.

Edible.—Reported in recent years as edible.

RUSSULA EMETICA

RUSSULA fragilis (Fr.) fragile.

Cap.—1 to 2 inches broad, convex, with a slight knob, (umbonate), at the center, then plane and later depressed; skin thin, slightly glutinous in wet weather, bright red; margin very thin, slightly lined and warty.

Flesh.—Very fragile, thin, flesh color, changing to red spots.

Spots.—Slightly attached to the stem, very thin, crowded, rather broad, veined, white.

Spores.—White.

Stem.—1 to 2 inches long, spongy, then hollow, often slightly lined, white.

Ring.—None.

Volva.—None.

Odor.—Mild.

Taste.—Acrid.

Habitat.—In open woods, growing singly, common from July to October. Frequent in New England.

Edible.

RUSSULA virescens. (Fr.) from viresco, to be green.

Cap—2 to 4 inches broad, globular, then expanded, later depressed in the center, always dry, the greenish skin breaking up into patches on the surface; margin straight, thick, even.

Flesh—Thick, brittle, white.

Gills—Free, somewhat crowded, sometimes forked, white.

RUSSULA FRAGILIS

Spores.—Nearly globular, white.

Stem—2 to 4 inches long and up to 1-2 an inch thick at the base; solid, later, spongy.

Ring.—None.

Volva.—None.

Odor.—Mild.

Taste.—Mild.

Habitat.—In woods from July to October, growing singly; very common in New England.

Edible.—Good raw.

RUSSULA roseipes (Sec.) from the Latin rosa, a rose; pes, a foot.

Cap.—1 to 3 inches broad, convex, then flat or slightly depressed; viscid, later dry, rosy red; margin slightly striate, very thin.

Flesh.—Soft, thin, fragile, white.

Gills.—Quite close, slightly joined to stem (adnexed), whitish turning to yellow.

Spores.—Globular, yellowish-white.

Stem.—1 to 3 inches long up to 1-2 inch thick, tapering, stuffed, becoming hollow; white tinged with red at base.

Ring.—None.

Volva.—None.

Odor.—Slight.

Taste.—Mild.

Habitat.—Under evergreen trees, common, growing singly from June to September. Found common in New England.

Edible.

CANTHARELLUS CIBARIUS (Egg-yellow Chantarelle)

CANTHARELLUS cibarius (Fr.) from cibaria, food. "Egg-Yellow Chantarelle."

Cap.—2 to 4 inches broad convex, then expanded, center often depressed, smooth, egg-yellow; margin rolled under at first, rather thick, wavy when full grown; irregular in size and form.

Flesh.—Solid, thick, white.

Guts.—Thick, narrow, more like large veins, branching irregularly, decurrent; yellow like cap.

Spores.—Elliptical, yellowish, white.

Stem.—1 to 2 inches high 1-4 to 1-2 inch thick, solid, blunt in appearance, yellow like cap.

Ring.—None.

Volva.—None.

Odor.—Not noticeable, though some claim a faint odor like that of apricots.

Taste.—A trifle pungent.

Habitat.—Open woods, also among evergreens, quite frequent, commonly singly; often in curved lines as if trying to form a ring; July and August. found common all over the United States.

Edible.—Stewed gently and served with a cream sauce, it is very delicious.

MARASMIUS oreades (Fr.) from the Greek meaning mountain nymphs. "Fairy Rings."

Cap.—1 to 2 inches broad, convex then plane, with a knob in the center; smooth, dry, tan color

MARASMIUS OREADES (Fairy Rings)
Showing growth in a circle, characteristic of this species.

becoming pale with age, absorbing moisture, tough; drying, but reviving when soaked in water; margin even, slightly lined in full growth, sometimes turning back over the cap, and wavy.

Flesh.—Thin, white, firm, and tough.

Gills.—Free, broad, distant, creamy-white.

Spores.—White, elliptical.

Stem.—2 to 3 inches long, solid, very tough, equal, straight, covered with a velvety skin, colored like the cap.

Ring.—None.

Volva.—None.

Odor.—Marked, pleasant.

Taste.—Nutty.

Habitat.—In pastures, lawns, growing in circles or in small clusters from May to November. Common in all sections of the United States.

Edible.—One of the most delicately flavored, and because of its abundance, one of the most valuable of our mushrooms. Stropharia semi-globata, Naucoria pediades and Naucoria semi-orbicularis grow often in company with Marasmius oreades and are also edible. They may be readily distinguished by their spores which in the first named are black and in the second and third, brown.

VOLVARIA SPECIOSA

VOLVARIA speciosa (Fr.) speciosus, handsome.

Cap.—3 to 5 inches broad, globular, at length, flat, somewhat gibbous, smooth, viscid when young, later dry and silky, slightly tinged with gray in center, all other parts white; margin pressed to stem when young, striate when cap expands, uneven and thin.

Flesh.—Rather thick, firm, tender, white.

Gills.—Free, pressed together closely at first later expanding but crowded, forked, rather broad, rounded at margin; white at first then pink.

Spores.—Brownish-pink. elliptical, smooth.

Stem.—1 to 4 inches long, up to 1-2 inch thick, solid, smooth, moist at first, later dry and silky, colored like cap.

Ring.—None.

Volva.—Free, persistent, hanging in rather thick folds about the base of stem, white.

Odor.—Mild..

Taste.—Mild.

Habitat.—Rich garden soil, in clusters and singly, spring months, rather rare in all sections of the United States except on the Pacific slope.

Edible.

CLITOPILUS prunulus (Scop.) from prunus, plum.

Cap.—2 to 3 inches broad, fleshy, at first convex, then bent backward, dry, greyish white, smooth; margin at first regular then wavy.

Flesh.—Firm, white.

Gills.—Extended far downward on the stem (decurrent), thin, somewhat distant, flesh colored.

Spores.—Pointed at each end, pink.

Stem.—1 to 2 inches long, and up to 1-2 inch thick at the base, white, lined, solid, smooth, equal.

Ring.—None.

Volva.—None.

Odor.—That of fresh meal.

Taste.—Mild.

Habitat.—In woods growing singly, sometimes in small clusters of two or three, not very abundant, from June to October. Quite frequent in New England.

Edible.

ENTOLOMA rhodopolium (Fr.) from the Greek meaning rose-grey.

Cap.—2 to 5 inches broad, fragile, bell-shaped, then expanded with a slight knob in the center, at length plane and slightly depressed, covered with small fibres when young, smooth when full grown, dingy brown when moist and water soaked, pale

silky shining grey when dry; margin at first turned inward, when larger wavy.

Flesh.—White.

Gills.—Growing to the stem, (adnate,), somewhat waved, (sinuate), slightly distant, rather broad, white and then rose colored.

Spores.—Pink, regular in shape and size.

Stem.—2 to 4 inches high, hollow, equal at first and then tapering upward, powdered with a white meal at the apex, otherwise smooth, slightly lined, white.

Ring.—None.

Volva.—None.

Odor.—Scarcely noticeable.

Taste.—Mild.

Habitat.—In woods from August to October, growing singly. Quite common in all sections of the United States.

ENTOLOMA clypeatum (Linn.) resembling a shield.

Cap.—2 to 4 inches broad, fleshy, bell shaped, then flattened, with a slight knob in the center, smooth, fragile, greyish in color, streaked with darker spots or lines, often seeming water soaked; margin even.

Flesh.—White, thin.

Gills.—Attached to stem (adnexed) somewhat waved (sinuate), broad, veined, sometimes toothed on the edges, dingy grey, then reddish.

Spores.—Pink.

PLUTEUS CERVINUS

Pluteus cervinus

Stem.—2 to 3 inches long, stuffed with fibres, then hollow, fibrous throughout, equal, fragile, greyish.

Ring.—None.

Volva.—None.

Odor.—Mealy.

Taste.—Mild.

Habitat.—In woods and gardens, common from June to November. Common in eastern and central United States.

Poisonous.—All Entolomas should be avoided. The gills attached to the stem in the Entolomas distinguishes them from the Plutei which in other respects they closely resemble.

PLUTEUS cervinus (Schaeff.) from cervus, a deer.

Cap.—2 to 4 inches broad, bell shaped, then convex, later expanded, smooth. sometimes with slight fibres, in the center, color of the fibres brown, color of the skin brownish grey fading to nearly white on the margin, often date brown in color, surface very wrinkled; margin even and in full growth, sometimes cracked.

Flesh.—Quite thick, firm, white.

Gills.—Free, broad, somewhat veined, at first whitish, then pink.

Spores.—Elliptical, pink.

Stem.—1 to 3 inches long, solid, slightly tapering upward, colored like the cap with a few fibres similar to those in the center of the cap. When this mushroom grows from the sides of stumps the stem is generally curved. When the stem is removed it leaves a cup shaped place in the flesh of the cap.

Ring.—None.

Volva.—None.

Odor.—Slightly mealy.

Taste.—Mild.

Taste.—Mild.

Habitat.—On the ground in open places or on stumps growing singly, sometimes in clusters; quite frequent from May to October, in the United States.

Edible.—Distinguished from the poisonous Entolomas by its free gills.

PHOLIOTA squarrosa (Mull) from squarrosus meaning scurfy.

Cap.—3 to 5 inches broad, bell-shaped then convex, fleshy, iron rust color, covered with dark brown scales, dry; margin at first curved in over the gills. Fringed with scales and remnants of the veil.

Flesh.—Thin, light yellow.

Gills.—Growing into the stem (adnate), crowded, narrow, greyish, thin, rust color.

Spores.—Elliptical, dropping in heaps, rust colored.

Pholiota adiposa

Stem.—4 to 6 inches long, up to 1 inch thick at the apex, tapering downward, stuffed with fibres, scaly as far as the ring, the remainder smooth.

Ring.—Only slightly distant from the apex, (superior), of same color as the scales.

Volva.—None.

Odor.—Often indistinct in young caps, but later disagreeable.

Taste.—When young sweet, later disagreeable.

Habitat.—On trunks of trees or stumps, growing in clusters, common from August to November. Very common in New England.

Edible.

PHOLIOTA adiposa (Fr.) "The Fat Pholiota."

Cap.—2 to 4 inches broad, at first hemispherical then convex, umbonate, very viscid when moist, yellowish in color, with the skin torn into rusty-brown scales; margin incurved, even, thin.

Flesh.—Yellowish, thick at center, very thin at margin, soft.

Gills.—Adnate, close, yellow, becoming rusty brown.

Spores.—Elliptical, rusty-brown.

Stem.—2 to 4 inches long, up to 3-4 inch thick,

NAUCORIA SEMI-ORBICULARIS

equal or slightly tapering at base, stuffed, colored like cap and clothed with scales to ring.

Ring.—Formed from thin veil is seen at upper portion of stem, often wanting in mature specimens.

Volva.—None.

Odor.—Mild.

Taste.—Insipid.

Habitat.—On stumps or dead trunks growing in clusters, September and October; quite common in eastern and central sections of United States.

Edible.

NAUCORIA semi-orbicularis (Bull.) from the two Latin words meaning half round.

Cap.—1 to 2 inches broad, dry, slightly glutinous when moist and fresh, then even, smooth, wrinkled in age, yellowish rust color, then brownish; margin curved in over the gills, blunt.

Flesh.—Whitish.

Gills.—Growing up to the stem (adnate), rather broad, crowded, yellowish, then rust color.

Spores.—Elliptical, brown.

Stem.—3 to 4 inches long, very tough, slender straight, equal, smooth, brownish, often darker at the base, with a narrow tube within.

Ring.—None, except for fragments of the veil attached to the stem, but these are often absent.

Volva.—None.

Odor.—Mild.

Taste.—Mild.

Habitat.—Lawns and pastures, growing singly and in small groups, from April to November. Common in eastern and central sections of the United States.

Edible

CORTINARIUS violaceus (Fr.)

"Violet Cortinarius."

Cap.—2 to 4 inches broad, then convex, finally nearly plane, fleshy, dry, covered with hairy scales, dark violet in color; margin even with fragments of the cortina or veil attached to it.

Flesh.—Violet in color, thick, crisp.

Gills.—Rather thick, distant, rounded at the stem, violet color at first, then cinnamon brown when they become dusted with the spores.

Spores.—Almost globular, cinnamon brown.

Stem.—3 to 5 inches long, about 1-2 inch thick, solid, bulbous, colored like cap.

Ring.—In the young stage of the Cortinarii, the gills are covered with a thick web-like structure known as the cortina; in this family as the cap expands this web is broken and hangs in fragments about the margin of the cap and about the stem forming a very imperfect and very slight ring.

Volva.—None

Odor.—Somewhat nutty.

Taste.—Mild.

Habitat.—Mixed woods, singly and in clusters, frequent from August to October. Found in New England and Central United States.

Edible.

CORTINARIUS cinnabarinus (Fr.) from the Latin meaning dragon's blood, so named from its color.

Cap.—1 to 2 inches broad, convex with a slight knob in the center, then plane, smooth, silky, scarlet red, sometimes orange, or yellow brown; margin curved over the gills.

Flesh.—Thick in the center, solid, white, tinged with brown.

Gills.—Running down on the stem (decurrent), rather broad, somewhat distant, connected by veins,

CORTINARIUS CINNABARINUS

unequal, reddish in color, when bruised becoming dark red.

Spores.—Nearly round, rusty brown.

Stem.—1 to 2 inches long, up to 1-4 inch thick, solid, equal with a small bulb at base, striate, blood red inside and outside.

Ring.—Very slight, formed from the web or cortina which is stretched over the gills in the young mushrooms, which later breaks and adheres in fragments to the margin of the cap and to the stem in the form of a ring.

Volva.—None.

Odor.—Like radishes.

Taste.—That of radishes.

Habitat.—In pine and chestnut woods, growing singly and in clusters, rather common from August to November. Found frequently in New England.

Edible.

CORTINARUS cinnamomeus (Fr.) "Cinnamon colored."

Cap.—1 to 2 inches broad, convex, with a slight knob in the center, covered with yellowish fibres, later almost smooth, cinnamon color; margin even, but later splitting.

Flesh.—Thin, yellowish.

Gills.—Growing to the stem(adnate), thin, rather broad, crowded, varying in color, through a blood red, reddish brown to a shining yellow.

Spores.—Elliptical, dark rust color.

Stem.—2 to 4 inches long, slender, equal, stuffed with fibres but later hollow, yellow, covered with fibres from the yellow veil.

Ring.—None, except for the yellow fibres of the veil.

Volva.—None.

Odor.—Mildly of radishes.

Taste.—Mildly of radishes.

Habitat.— In mossy places in woods, growing singly from August to October. Common all over the United States.

Edible.

CORTINARIUS corrugatus (Pk.) "Corrugated Cortinarius."

Cap.—2 to 4 inches broad, bell-shaped and later convex, glutinous when moist, corrugated or wrinkled, varying in color from bright yellow to a reddish or brownish yellow; margin at first curved in over the gills and later even.

Flesh.—White.

Gills.—Close, slightly narrowed toward the stem, growing up to the stem (adnate), slightly uneven

CORTINARIUS CORRUGATUS

AGARICUS CAMPESTER
(Common Mushroom)

on the edge, pale yellow at first then brownish.

Spores.—Elliptical, rough, brownish.

Stem.—3 to 5 inches long and up to 1-2 inch thick, equal,, hollow, with a glutinous bulb being colored like the cap, while the stem is slightly paler.

Ring.—None except for the brownish fibres from the veil.

Volva.—None.

Odor.—Slightly pungent.

Taste.—Mild.

Habitat.—In woods, rather common growing singly from June to September. Common in New England.

Edible.

AGARICUS campester (Linn.) from Latin campus, a field; "Common mushroom."

Cap.—1 to 5 inches broad, hemispherical, convex finally nearly plane, smooth, dry, of a delicate buff color, leathery in appearance; margin at first curved under and extending beyond the gills, later somewhat split, not striate. Very variable in appearance often covered with reddish brown scales.

Flesh.—Firm, thick, white.

Gills.—Free, close, veined, at first flesh color then pink, changing to brown and finally blackish-brown, somewhat moist in mature specimens.

(Common Mushroom)

AGARICUS SILVATICUS

Spores.—Elliptical, purplish-black.

Stem.—Up to 3 inches long, thick, stuffed, whitish, smooth, sometimes slightly thickened at base.

Ring.—About middle of the stem, generally torn, rather large, white.

Volva.—None.

Odor.—Agreeable.

Taste.—Mild, nutty.

Habitat.—Pastures, growing singly, quite common from July to October.

Edible.—This is the most widely known of all mushrooms. There are many species of this family, all edible and all having the same characteristics relative to the gills, which is the characteristic mark of these mushrooms. This is the mushroom most widely sought for by lovers of edible fungi and if the following facts are observed no mistakes will occur in gathering them. They do not grow in woods, the gills are always light pink at first, changing as the plant grows to brown and then blackish brown; they possess no volva.

AGARICUS silvaticus (Schaeff.) from the Latin, belonging to the wood.

Cap.—2 to 6 inches broad, convex, then plane, with a slight umbo, filbrillose with brown scales, white beneath these; margin fairly even, thin.

STROPHARIA SEMI-GLOBATA

Flesh.—White, thin, firm.

Gills.—Free, thin, close, narrow at each end, flesh color, then pink, later brown and at last brownish-black.

Spores.—Elliptical, brownish-black.

Stem.—4 to 6 inches high, slender, stuffed then hollow, bulbous white.

Ring.—Rather thick, sometimes entire, but more often torn.

Volva.—None.

Habitat.—Mixed woods, quite common, growing singly, July and August.

Edible.—This mushroom must be gathered with care as there is danger of confusing it with Amanitae which grow in the woods. The color of the gills is the key to this mushroom. Amanitae have white gills which never change in color. The stem of the Agaricus silvaticus is bulbous but there is no volva as in the Amanitae which sheathes the stem.

STROPHARIA semi-globata (Batsch), semi, half; globus, ball.

Cap.—1-2 to 2 inches broad, viscous later dry and wrinkled, some specimens smooth, others slightly scaly, hemispherical, later expanded; margin even.

Flesh.—Thin, white.

HYPHOLOMA APPENDICULATUM

Gills.—Broad, adnate, yellowish, clouded or spotted wtih black the distinguishing characteristic of this mushroom.

Spores.—Elliptical, blackish-purple.

Stem.—1-3 inches long, 1-4 inch thick, equal, powdered with spores, smooth, young specimens stuffed, mature, showing the hollow tube.

Ring.—About center of stem, viscid, blackish, often appearing incomplete as tiny fibres.

Volva.—None.

Odor.—Strong.

Taste.—Mild.

Habitat.—On dung in pastures, growing singly or in clusters of two or three. Common after rains from June till November. Found frequently in New England.

Edible.

HYPHOLOMA appendiculatum (Bull.) because parts of the veil adhere to the margin of the cap.

Cap.—1 to 2 inches broad, conical then nearly plane, brownish in the center fading to a grayish white on the edge, watery, lined; margin even with fragments of the white veil adhering to it.

Flesh.—Thin, very fragile, whitish.

Gills.—Growing to the stem (adnate), crowded, white then flesh colored, then grayish brown and at last black.

Spores.—Elliptical, transparent, purplish black.

Stem.—3 inches long, slender, equal, hollow, smooth, white, with a white powder at the apex, fragile.

Ring.—None.

Volva.—None.

Odor.—Mild.

Taste.—Mild.

Habitat.—In gardens or rich soil about stumps and on lawns, growing in large groups very common, from June to November in New England.

Edible.—One of the best mushrooms.

HYPHOLOMA perplexum (Pk.) from Latin perplexus. "Uncertain or perplexing Hypholma."

Cap.—1 to 3 inches broad, convex, smooth, dry, brownish-red fading to brownish-yellow on margin, which is regular.

Flesh.—Rather thin, spongy, white.

Gills.—Thin, close, set closely to stem (adnate), first yellow then with greenish tinge, finally brown.

Spores.—Elliptical blackish-brown.

Stem.—2 to 3 inches long, 1-4 to 1-2 inch thick,

HYPHOLOMA SUBLATERITIUM (Brick-top)

firm, hollow, yellow above rusty-black below.

Ring.—The veil is delicate, yellowish-white, soon vanishing, occasionally slight traces of it may be seen on the stem in the form of brown threads.

Volva.—None.

Odor.—Mild.

Taste.—Nutty, with sometimes a slight tinge of bitterness.

Habitat.—On ground in woods or on decayed stumps. Common, growing in crowded clusters September to midwinter. Found in all sections of the United States.

Edible.

HYPHOLOMA sublateritium (Schaeff.) "Bricktop Mushroom."

Cap.—2 to 3 inches broad, convex, smooth, dry, brick red, except on margin which is of paler hue, covered with white silky fibres from veil; margin regular.

Flesh.—Rather ,thin, firm, white, in mature growth yellow.

Gills.—Narrow, crowded, extending close to stem (adnate), dull yellow then turning to a greenish hue, at length olivaceous.

Spores.—Elliptical, sooty-brown.

Stem.—2 to 4 inches high, up to 1-3 inch thick, stuffed, smaller at base, scaly, fibrils of yellowish brown, stem brownish in color.

"Eccentric-stemmed Boletinus."

Cap.—2 to 5 inches broad, viscid when moist, shining when dry, reddish brown; margin very thin, tapering downwards, firm, stuffed, covered with

Ring.—The veil is very slight, composed of fibres forming a net which is white at first then brown and is found adhering in threads about the upper part of the stem, forming an imperfect circle, often wholly vanished in mature specimens,

Volva.—None.

Odor.—Mild.

Taste.—Rather bitter.

Habitat.—On ground where there are decayed stumps and on decayed wood, growing in clusters, common, September to midwinter.

Edible.—There are many varieties of this mushroom, distinguished by the greenish yellow gills and brick-red caps. All are edible and when cooked have no tinge of bitterness.

CORPRINUS comatus (Fr.) from coma meaning hair. "Shaggy-Mane."

Cap.—2 to 5 inches broad, bell-shaped or egg-shaped, later expanding and becoming plane, the center is purplish-black, the remainder covered with concentric scales of a whitish color tipped with black; margin lined and splitting along the lines of the gills, rolling back over the cap in mature age.

Flesh.—White, rather thin.

Gills.—Free from the stem, very crowded. broad, at first tinged with pink, then turning to black and dissolving into an inky fluid.

Spores.—Elliptical, black.

Stem.—Up to 6 inches long, and up to 1-2 an inch thick, tapering upward, hollow, brittle, white.

Ring.—Thin, torn, sometimes movable.

Volva.—None.

Odor.—Earthy.

Taste.—Strong.

Habitat.—On dumping grounds and in gardens and where ashes and street sweepings have been placed, growing singly and in large groups from April to November. Common over all sections of the United States.

Edible.

CORPRINUS atramentarius (Bull) from Latin atramentarius, ink. "Inky Cap."

Cap.—1 to 3 inches broad, egg-shaped, expanding, flat when mature and margin split and rolled back over cap; in some cases smooth, others tufted with tiny scales, color mouse gray, margin striate.

Flesh.—Thin ,soft, grayish.

Gills.—Adnate, that is, coming up close to stem, adhering to each other, broad, white then turning black and dissolving into inky fluid.

COPRINUS ATRAMENTARIUS (Inky Cap)

Spores.—Somewhat cylindrical, black.

Stem.—Up to 5 inches high and 1-2 inch thick, smooth white hollow, tapering upwards.

Ring.—Near the base (inferior) formed by the separation of the cap from the stem.

Volva.—None.

Odor.—Earthy.

Taste.—Mild.

Habitat.—On lawns and gardens, rich ground, not on dung, growing in large clumps, with here and there a solitary specimen which will attain a large growth. Common. Often appears in spring but is more common in the fall. A cluster found in spring is generally the forerunner of a good crop in the same spot in the fall. Common in all section of the United States.

Elible.—One of the best Coprini, as it has more substance than the other varieties and a more delicate flavor than C. comatus.

COPRINUS micaceus (Bull.) from Latin mica, granular.

Cap.—1 to 2 inches broad, cylindrical, finally expanded and split at margin which is wavy, striate; date brown at center, tan color to margin, at first covered with glistening white granules from which characteristic it derives its name; later these disappear and the cap appears dry and cracked.

Flesh.—Thin, white.

Gills.—Adnate, adhering together, white, then flesh color, at last black; in dry weather they sometimes remain more or less firm, but in moist weather they melt or deliquesce into a black fluid.

Spores.—Cylindrical, black.

Stem.—1 to 2 inches to 1-3 inch thick, equal, smooth, hollow, white, fragile.

Ring.—Very slight near base (inferior) formed by cap adhering to stem, often wholly wanting.

Volva.—None.

Odor.—Earthy.

Taste.—Mild, nutty.

Habitat.—On rich soil, about elm trees or decayed stumps of elms, in large clumps, very frequent from very early spring until late in fall. Found in all sections of the United States.

Edible.—Because of its frequency, length of season and delicate flavor, it forms what should be one of the most highly prized mushrooms. One that the amateur can readily determine and easily gather a dish from almost any street where elm or poplar trees are used for purposes of shade.

COPRINUS MICACEUS

PANAEOLUS retirugis (Fr.) from Latin rete, net and ruga, wrinkle.

Cap.—Up to 1 inch broad, at first almost globose then expanding; never plane, slightly umbonate, in wet weather has a water-soaked appearance and is viscid; in dry weather, dry and the surface cracked and wrinkled which feature gives the mushroom its name. Color dark smoky gray, becoming lighter and shining. Sometimes tawny yellow. Center much darker, often zoned when moist. Margin even, extending beyond gills, not striate, containing V shaped particles of veil which is another characteristic of this species.

Flesh.—Rather thick, white.

Gills.—Coming up to stem (adnate), quite broad in middle, very regular, crowded, grayish black.

Spores.—Elliptical-fusiform black.

Stem.—2 to 4 inches long about 1-4 inch thick, equal, smoky gray in color, hollow, darker at base, granular, bulbous.

Ring.—The veil is very prominent in young plants white and quite stout, adheres to margin never to stem the spores at times fall and float against stem forming a black ring but this is not to be mistaken for a true ring.

Volva.—None.

Odor.—Earthy.

Taste.—Mild.

Habitat.—On newly made lawns, and dung, quite frequent singly and in loose clusters June to frost. Very common in New England.

The edibility of this mushroom is questioned some report nausea after eating it. It should be partaken very carefully if used at all.

PANAEOLUS solidipes (Pk.) solidus, solid; pes, foot.

Cap.—1 to 3 inches across, globular, then hemispherical, at length convex and nearly plane, lead-white in color; moist, when young, somewhat corrugated, later breaking up into yellowish areas; margin thin even.

Flesh.—White, compact, thin.

Gills.—Slightly attached to stem, broad, whitish at first, then black.

Spores.—Elliptical, black.

Stem.—2 to 6 inches tall up to 3-4 inch thick, smooth with drops of moisture on upper part, colored like cap, solid at first, later tubular.

Ring.—Veil very slight, scarcely noticeable on stem in form of a few blackish fibres.

Volva.—None.

Odor.—Mild.

Taste.—Mild.

Habitat.—On dung in pastures, growing singly, common in New England; July and August.

Edible.

BOLETINUS pictus (Pk.)

"Painted Boletinus."

Cap.—2 to 4 inches broad, convex then nearly plane, covered with red fibres which soon divide into scales, showing the yellow cap below. Margin even, extending a little beyond tubes with patches of veil adhering to edge.

Flesh.—Solid yellow slowly turning to pinkish hue when bruised.

Tubes.—Joined to stem (adnexed), branching, forming angular pores, clinging closely to flesh of cap, which is the distinguishing characteristic of this genus; yellow at first, dingy when older, changing to pinkish when bruised.

Spores.—Elliptical, brown.

Stem.—1 to 3 inches long, 3-4 to 1 1-2 inches thick, equal, solid covered like the cap with reddish scales, yellow at top.

Ring.—Slight traces are found on young specimens before the white webby veil has wholly vanished.

Volva.—None.

Odor.—Slight.

Taste.—Mild.

Habitat.—In mixed woods and damp evergreen woods, growing singly August and September. Very common in New England.

Edible.

BOLETINUS porosus (Berk.)
"Eccentric-stemmed Boletinus."

Cap.—2 to 5 inches broad, viscid when moist, shining when dry, reddish borwn; margin very thin, tapering downwards, firm, stuffed, covered with remnants of veil which give it a scaly appearance.

Flesh.—Thick in middle, thin at edge, yellowish.

Tubes.—Extending down the stem (decurrent), arranged in radiating lines connected by irregular veins forming large angular pores, pale yellow then dingy, sometimes turning slightly blue when bruised, adhering closely to flesh of cap.

Spores.—Elliptical, brown.

Stem.—1 1-2 inches to 4 inches long, 1 to [illegible] inches thick, eccentric which is its distinguishing characteristic, tough colored like cap.

Ring.—None.

Volva.—None.

Odor.— Disagreeable at certain age, in other stages of growth not noticeable.

Taste.—Mild.

Habitat.—Damp ground in woods and open spots, often on lawns, quite frequent, growing singly or in small clusters during August and September. Common in New England and the Central sections of the United States.

Edible.

BOLETUS flavidus (Fr.)

"Pale Yellow Boletus."

Cap.— 1 to 2 inches broad, gibbous, then plane, viscid, yellow, dingy lat r; margin even, with particles of white veil often adhering.

Fesh.—Pale yellow, thin.

Tubes.—Extending down the stem (decurrent), large angular mouths, dingy yellow, separating easily from flesh of cap.

Spores.—Oblong.

Stem.—Slender, solid, colored like cap sprinkled with dingy dots above the sticky ring.

Ring.—Entire, white, sticky.

Volva.—None.

Odor.—Mild.

Taste.—Mild.

Habitat.—Pine woods and swampy ground, quite frequent, August and September. Common in Eastern United States.

Edible.

BOLETUS americanus (Pk.)

"American Boletus."

Cap.—1 to 3 inches broad. nearly plane, sometimes with slight umbo, viscid when moist, then smooth, yellow becoming streaked with red in age; margin even, thin, with remnants of webby veil adhering to young specimens.

Flesh.—Yellow, turning to pinkish-gray when exposed to air, thin, soft.

Tubes.—Adnate, rather large, angular, yellow becoming dingy.

Spores.—Oblong, rusty-brown.

Stem.—1 1-2 to 2 1-2 inches long, up to 1 inch thick slender, equal, yellow throughout marked with brownish dots.

Ring.—None.

Volva.—None.

Odor.—Slightly acid.

Taste.—Mild.

Habitat.—Woods, swampy ground and open spots, also pine woods, quite frequent, singly or in small clusters, August and September. Frequent in Eastern United States.

Edible.

BOLETUS bicolor (Pk.) from Latin, two, color.

Cap.—2 to 4 inches broad convex, smooth, dark red later spotted or sometimes cracked in areas, showing yellow underneath margin even.

Flesh.—Rather thick, firm then soft, yellow, changing slightly and slowly to blue when wounded.

Tubes.—Coming up to stem (adnate) mouths small, angular, bright yellow then dingy, slowly changing to blue when wounded.

Spores.—Oblong, rusty-brown.

Stem.—1 to 3 inches long up to 1 1-2 inches thick firm solid red, yellow at top.

Ring.—None.
Volva.—None.
Odor.—Mild.
Taste.—Mild.
Habitat.—Woods and open places quite frequent, singly, August and September. Common in New England.
Edible.

BOLETUS granulatus (Linn.) from Latin granula, granule.

Cap.—1 to 4 inches broad, convex then nearly plane, very viscid, reddish brown when moist, yellowish when dry, very variable however in color from pinkish-gray through all shades of reddish or yellowish brown. Margin even.
Flesh.—Thick, white, yellow near tubes.
Tubes.—Joined squarely to stem (adnexed), small, short, yellowish, dotted with granules at mouth.
Spores.—Spindle-shaped, yellowish.
Stem.—1 to 2 inches long, up to 1 1-2 inches thick, firm., white, sometimes yellowish dotted with brownish granules on upper part.
Ring.—None. *Volva.*—None.
Odor.—Mild. *Taste.*—Agreeable.
Habitat.—Pine woods generally, often in open woods, very common, in small clusters, sometimes in circles. August and September. Very common in New England.
Edible.

BOLETUS variegatus (Swartz).

Cap.—2 to 5 inches broad, convex, then plane, moist, sprinkled with hairy reddish-brown scales, dark yellow; margin even, thin, at first floeculose.

Flesh.—Quite thick, firm, yellowish white becoming blue on exposure to air.

Tubes.—Extending close to stem (adnate), unequal, very small, brown then cinnamon.

Spores.—Oblong, pale yellow.

Stem.—2 to 3 inches long, 1 1-2 inches thick, firm, equal, even, dark yellow sometimes reddish.

Ring.—None.

Volva.—None.

Odor.—Mild.

Taste.—Nutty.

Habitat.—Pine woods, quite common singly. August and September. Found quite common in all sections of the United States.

Edible.

BOLETUS ornatipes (Pk.) from the Latin ornate and foot.

Cap.—2 to 5 inches broad, convex, dry, smooth, yellowish-brown; margin even.

Flesh.—Firm, pale yellow.

Tubes.—Coming up to stem (adnate), depress-

BOLETUS SCABER

ed about stem, small, clear yellow turning darker with age but not from bruises.

Spores.—Oblong, yellow-brown.

Stem.—2 to 4 inches long, up to 1 1-2 inches thick, firm, subequal, beautifully covered with network (reticulated), yellow without and within.

Ring.—None. *Volva.*—None.

Odor.—Mild. *Taste.*—Mild.

Habitat.—Open woods, quite frequent, single. August and September. Quite common in New England.

Edible.

BOLETUS scaber from the Latin scaber, rough. "Rough-stemmed Boletus."

Cap.—1 to 4 inches broad convex, smooth, viscid when moist, smoky white, sometimes orange brown in color, very variable.

Flesh.—White, sometimes reddish-white, when bruised.

Tubes.—Free from stem, rather long, convex from margin of stem where they are somewhat depressed, small, dingy white.

Spores.—Oblong to spindle-shaped, snuff-brown.

Stem.—3 to 5 inches long, up to 2 inches thick, solid, tapering upward, white, covered with black, hairy scales which is the distinguishing characteristic of this otherwise very variable mushroom.

Ring.—None. *Volva.*—None.

Odor.—Mild.

Taste.—Mild.

Habitat.—In groves or edges of woods, commonly growing singly. August and September. Of common occurrence in all sections of the United States.

Edible.

BOLETUS chrysenterion (Fr.) golden within. "Red-cracked Boletus."

Cap.—1 to 2 inches broad, convex, then plane, covered with woolly scales, reddish-brown or olive-brown cracking into areas, the chinks between showing deep reddish tints just below; the distinguishing feature of the mushroom.

Flesh.—Soft, quite thick, yellow, red below skin slightly changing to blue when wounded.

Tubes.—Depressed about stem, rather large, angular, unequal, greenish yellow turning to blue when wounded.

Spores.—Spindle-shaped, pale brown.

Stem.—1 to 3 inches long, up to 1 1-2 inches thick, subequal, firm, fibrous, striate, yellow below, reddish above.

Ring.—None. *Volva.*—None.

Odor.—Mild. *Taste.*—Mild.

Habitat.—Woods, common, singly, August and September; of common occurrence in all sections of the United States.

Edible.

BOLETUS edulis (Bull) from the Latin edible.

Cap.—4 to 6 inches broad, convex then plane, smooth, moist, varying in color from grayish-red, brownish red to yellowish brown, paler on margin; very variable in color and size.

Flesh.—Thick, firm at first then soft, white, red beneath skin of cap.

Tubes.—Convex from margin of cap to stem where they are depressed and partially free from stem, white when young, mouth closed at first (stuffed), later greenish yellow.

Spores.—Oblong to spindle-shaped, greenish-yellow.

Stem.—2 to 6 inches long 1 1-2 to 3 inches thick, bulbous, more or less netted (reticulated), pale brown.

Ring.—None. *Volva.*—None.

Odor.—Mild. *Taste.*—Mild.

Habitat.—Woods and open places, very frequent, August and September. Of common occurrence in all sections of the United States.

Edible.

BOLETUS chromapes (Fr.) from the Latin yellow and foot.

Cap.—2 to 4 inches broad, convex, or nearly plane, pale grayish pink.

Flesh.—White, unchangeable.

Tubes.—Convex, attached slightly to stem, though often free; white turning brownish.

Spores.—Oblong.

BOLETUS FELLEUS (Bitter boletus)

Stem.—2 to 4 inches long up to 1 1-2 inches thick slightly tapering upward, whitish above, dotted with reddish dots: yellow at base without red within, the distinguishing characteristic.

Ring.—None.

Volva.—None.

Odor.—Mild.

Taste.—Mild.

Habitat.—Open woods, quite frequent, growing singly, August and September. Very frequent in New England.

Edible.

BOLETUS felleus (Bull) common.
"Bitter Boletus."

Cap.—3 to 8 inches broad, nearly plane, smooth, even, varying in color from pale yellow to chestnut brown.

Flesh.—Thick, firm, then soft, white sometimes changing to flesh color when wounded.

Tubes.—Coming up to stem, adnate, convex from margin, depressed about stem, long, angular, white tinged with flesh color.

Spores.—Oblong-spindle-shaped, flesh-colored.

Stem.—2 to 4 inches long up to inches thick, variable in size and shape. Sometimes bulbous, generally covered with network; reticulated) at upper part of stem, color a trifle paler than cap.

Ring.—None.

Volva.—None.

Odor.—Mild.

Taste.—Very bitter, its distinguishing characteristic

Habitat.—About or on decayed stumps in open and grassy spots quite common. Singly. August to September. Very frequent in New England; found also in central sections of United States.

Not poisonous but its bitterness renders it unfit to eat

BOLETUS castaneus (Bull.) From Latin chestnut. "Chestnut Boletus."

Cap.—1 to 3 inches broad, convex, plane, even, dry, velvety, chestnut brown.

Flesh.—Brittle, white unchangeable.

Tubes.—Free, short, small, white, stuffed at first.

Spores.—Oblong.

Stem.—1 to 2 inches long, up to 1 inch thick, slender, tapering upward, solid, then hollow, colored and velvety like cap, generally paler at top of stem.

Ring.—None.

Volva.—None.

Odor.—Mild.

Taste.—Nutty.

Habitat.—Open woods, grassy spots under trees, quite common singly and in small clusters. June to September. Quite common over all the United States.

Edible.—Good, either raw or cooked.

STROBILOMYCES strobilaceous (Berk.) from the Greek, cone-like.

Cap.—2 to 4 inches broad, hemispherical, dry, dingy white, covered with thick black woolly scales; margin thin, to which adheres fragments of the woolly veil.

Flesh.—Thin, firm, white changing to reddish, then black when bruised.

Tubes.—Coming up to stem (adnate) adhering to flesh, long, large angular, turning like flesh from dingy white to red then black.

Spores.—Nearly round, blackish-brown.

Stem.—3 to 5 inches long, up to 2 inches thick, equal slightly tapering upward, clothed like the pileus, with black woolly scales.

Ring.—None, white veil adheres to margin of cap.

Volva.—None.

Odor.—Mild.

Taste.—Mild.

Habitat.—In woods and open places common, singly and in groups. July to September. Very common in New England; also found in central section of the United States.

Edible,

FISTULINA HEPATICA
Growing on stump with Polyporus.

FISTULINA hepatica (Fr.) from the Greek, resembling liver. "Beefsteak mushroom."

Cap.—4 to 8 inches broad, dark red, streaked with lighter shades of red; at first having little glands that have the appearance of a tongue, these disappear in mature growth.

Flesh.—Soft, jelly-like, thick, viscid.

Tubes.—Pale reddish yellow, very short at first then longer.

Spores.—Elliptical, yellowish.

Stem.—Very short, at one side (eccentric), expanding into the cap which in reality forms but a continuation of the stump like stem.

Ring.—None.

Volva.—None.

Odor.—Slightly acid

Taste.—Acid; dissappears in cooking.

Habitat.—On decayed stumps and trunks of trees, principally chestnut. Frequent June to Sept. Common in most parts of the U. S.

Edible.

POLYPORUS brumalis (Pers.)
"The Winter Polyporus."

Cap.—1 to 3 inches broad, convex, then plane, somewhat depressed at center, surface very hairy, ranging in color from a smoky-brown to nearly

POLYPORUS BRUMALIS

black; margin very thin, fringed with coarse hairs.

Flesh.—First pliant, later tough, hard and dry, thin, brownish.

Tubes.—Growing very close to stem, minute, regularly arranged, at first white then yellowish.

Spores.—None obtained from specimen.

Stem.—1 to 3 inches long to 1-4 inch thick, even, hairy, lighter in color than cap.

Ring.—None.

Volva.—None.

Odor.—Not noticeable

Taste.—Woody.

Habitat.—On dead limbs in clusters of two or three found throughout the year, common all over United States.

Too tough to be edible.

POLYPORUS sulphureus (Fr.) from the Latin sulphur.

Cap.—8 inches or more broad, wavy, red in center, yellow on margin.

Flesh.—Yellow, firm, splitting, not growing woody.

Pores.—Minute, even, yellow, in full vigor filled with sulphur yellow milk.

Stem.—Generally wanting, sometimes a very slight one fastens the cap, shelf-like to the trunk of the tree or side of the stump.

POLYPORUS SULPHUREUS

Ring.—None.

Volva.—None

Odor.—Mild.

Taste.—Mild.

Habitat.—On decaying trunks and stumps of many varieties of trees in large overlaying clusters. August to frost. Common in New England and central sections of the United States.

Edible.

POLYPORUS betulinus (Fr.) from the Latin betula, a birch. "Birch tree Polyporus."

Cap.—3 to 6 inches broad, smooth, white, then tinged with brown, margin thick.

Flesh.—Thick, soft, white.

Pores.—Very small, short, of slow growth, unequal, white.

Spores.—Have never been able to procure spores from a specimen for examination.

Stem.—Wanting.

Ring.—None.

Volva.—None

Odor.—Woody.

Taste.—Woody.

Habitat.—On birch trees, very common; growth begins in early summer but specimens may be found

POLYPORUS BETULINUS
(Birch-Tree Polyporus)

at any time during the year. Common wherever birch trees grow.

Edible.—When young; when dry burns readily, excellent kindling for a camp fire.

POLYSTICTUS perennis.

Cap.—1 to 1 1-2 inches broad, pliant, tough, depressed in center (infundibuliform) velvety, zoned in shades of brown varying from snuff color to deep seal; margin thin, torn.

Flesh.—Thin, colored like cap.

Pores.—Very small, angular, grayish brown.

Ring.—None.

Volva.—None

Odor.—Woody.

Taste.—Woody.

Habitat.—In pine woods, common, growing singly and in clusters from July to October. Found very common in New England.

Not Edible owing to its woody character, but not poisonous.

HYDNUM imbricatum. (Linn.) from the Latin, a tile.

Cap.—2 to 5 inches broad, depressed in center, often funnel-shaped, smoky-brown in color, covered with brownish scales, often cracked; margin even, irregular in shape and size.

A. Hypomyces lactifluorum
B. Calvatia saccata
C. Polystictus perennis

Ring.—None.

Volva.—None

Odor.—Mild.

Taste.—Mild.

Habitat.—In woods about decayed stumps, July to November. Common in all sections of United States.

Edible.—When young, bitter when mature.

SPARASSIS crispa (Fr.) from crispus, curly.

Tuft.—3 to 9 inches high, up to 12 inches broad, variable in size and shape, oyster gray, pale yellow or leaf brown in color. Tuft is composed of many leaf-like branches giving it the appearance of a huge rosette. Flesh of branches soft and somewhat gelatinous in appearance. Dries readily.

Spores.—Spore surface on both sides of the leaf-like branches in four-spored cases, pale brown in color, elliptical.

Stem.—None, tuft rests upon a rooted base.

Habitat.—On stumps and on ground, September and October, rare, but when found once in a locality, generally found succeeding season.

Edible.

1. CLAVARIA FLAVA
2. CLAVARIA CRISTATA

CLAVARIA flava (Schaeff.) from the Latin, yellow. "Coral Mushroom."

No Cap but a large mass, 2 to 6 inches across and 2 to 4 inches high, composed of even, round branches developed from the main trunk or stem. These branches are very fragile, the tops toothed, erect, pale yellow on the tips fading in the lower part of the branches.

Flesh.—White.

Spores.—Developed on the upper part of the upright branches; oblong, yellow-white.

Stem.—Short, thick, colored like branches.

Odor.—Nutty.

Taste.—Nutty.

Habitat.—Open woods July to frost in large clusters, very common in New England; found also in Central United States.

Edible.—One of the most delicate favored of mushrooms and because of the ease with which all "coral mushrooms" may be identified one of the most valuable to the amateur.

CLAVARIA cinerea (Bull.) from the Latin cinis, ashes.

Clusters 1 to 3 inches across, branches very numerous, irregular, flattened, sub-divided at top into

many slender points, gray in color; its distinguishing characteristic, variable in mode of growth and size.

Stem.—Variable in size, short, lighter in color than the branches.

Spores.—Not obtainable from specimens gathered.

Odor.—Mild.

Taste.—Mild.

Habitat.—In open woods, in clusters. June to frost. Common in all sections of the United States.

CLAVARIA cristata (Pers.) from the Latin crista, crest.

Clusters.—2 to 4 inches across and 2 1-2 inches high; clusters smaller than C. flava, branches numerous, irregular, flattened at top and divided like horns, rather tough, stuffed white, variable in color, sometimes having a pinkish hue, tips often turning black with age.

Stem.—Short, stout.

Spores.—Pointed, pale brown.

Odor.—Mild.

Taste.—Mild.

Habitat.—Open woods, common, July to frost. Found in all sections of the United States.

Edible.

1. Morchella deliciosa
2. Morchella semilibera

MORCHELLA DELICIOSA

LEOTIA lubrica (Pers.) from the Latin, slippery.

Cap.—Up to 1 inch across, very irregular in shape, viscid, olive brown; margin thick and wavy.

Flesh.—Thick, soft jelly-like, same color as cap.

Spore.—Bearing surface covers the upper surface of cap.

Spores.—Elliptical, narrow, transparent, containing ting glands or sacs arranged in rows.

Stem.—1 to 2 inches high, equal, flat, pulpy, then hollow, yellow-brown, covered with minute white granules.

Odor.—Earthy.

Taste.—Mild.

Habitat.—On ground in woods, common, July to frost, growing singly and in clusters. Found frequently in New England and in Central sections of the United States.

Edible.

MORCHELLA deliciosa (Fr.) "Sponge Mushroom." "Delicious Morel."

Cap.—1 to 3 inches high, about 1 1-2 inches broad, cylindrical in shape; its distinguishing characteristic, adnate to stem, hollow, composed of stout ribs which are deeply pitted, giving it the appearance of honey comb; color, buff to light brown.

GEOGLOSSUM GLUTINOSUM

Flesh.—Thin, white.

Spores.—Elliptical, eight to an ascus (spore case).

Stem.—1 to 3 inches high up to 1 1-2 inches thick, smooth, hollow, white.

Odor.—Earthy.

Taste.—Mild

Habitat.—In moist woods, in orchards under tree where ashes have been strewn, often beneath verandas, growing singly or in clusters of two or three; frequent. April and May. Found very frequently in New Eng. and Central sections of U. S.

Edible.—Highly prized for its delicate flavor.

GEOGLOSSUM glutinosum (Pers.)

Entire plant 1 to 3 inches high, upper part clavate, entirely covered with the hymenium, slightly viscid and hairy, black, tapering down to the stem which is also viscid and black in color.

Spores.—Contained in sac-like cells, eight in each cell, dark brown in color, cylindrical with obtuse ends, having three partitions. The shape and color of the spores are the important features of this species.

Odor.—Woody.

Taste.—Mild

Habitat.—On wet ground, in swamps, growing on moss; frequent during July and August. Found common in eastern and central United States.

Edible.

PEZIZA badia from the Latin, bay color.

Cap.—1 to 2 inches across, cup-shaped, granular, dark brown, margin entire, wavy.

Flesh.—In two layers, the inner firm, outer spongy. Spore-bearing surface situated on upper surface of cups.

Spores.—Elliptical, transparent, minutely warted, arranged in rows, the spores are ejected with such force when the mushroom is touched that they appear like a smoke issuing from the cap.

Stem.—Wanting.

Odor.—Earthy.

Taste.—Gelatinous.

Habitat.—On ground along woody roads, singly and in clusters, frequent, July to October. Found common in New England and central United States.

PEZIZA aurantia (Pers.) from the Latin golden. "The Golden Peziza."

Cap.—1-2 to 2 inches broad, cup-shaped becoming expanded to almost plane, deep orange on inside of cup, light yellow on outside, which is covered with delicate filaments, that give it a frosted appearance.

Flesh.—Thin, brittle.

Spores.—Elliptical, covered with a network of raised lines at maturity.

Stem.—Wanting.

Odor.—Mild.

Taste.—Mild

Habitat.—On ground, singly and in clusters, September and October. Found in eastern and central United States.

Edible.

HYPOMYCES lactifluorum (Schw.) from the Latin milk, and to flow.

A parasite which attacks various mushrooms, but more particularly the species of Lactarius. The parasite alters the structure and appearance of the plant so that it is difficult to recognize the original.

PHALLUS RAVENELLU

The attack is made when the plant is very young. The gills are obliterated, milk cells so changed that they yield no fluid; in the case of L. piperatus the peppery taste is wholly destroyed. The cap presents a granular, orange-colored surface throughout its entirety.

Spores.—Are arranged in rows over the surface; spindle shaped, rough, transparent.

Flesh.—White and firm.

Odor.—Mild.

Taste.—Mild

Habitat.—In woods wherever Lactarii are found.

Edible.

PHALLUS Ravenelii (Bull.)

Cap.—1 to 2 inches high, conical-shaped, surface smooth, deliquescing, blackish-green in color; apex white, smooth, finally with opening in center.

Gills.—None.

Spores.—Enclosed in jelly-like substance on outer surface of cap; oblong.

Stem.—2 to 4 inches high, up to 2 inches thick, tapering at each end, hollow, composed of cellular tissue which resembles the mantle of a Welsbach burner, white.

Ring.—None.

GEASTER HYGROMETRICUS

Veil.—Concealed beneath the cap.

Volva.—Ovoid, gleatinous, remaining at lower part of stem when plant has burst through.

Odor.—Very disagreeable, like carrion.

Habitat.—About decaying wood, under piazzas, on lawns, in woods.

Not edible.

GEASTER hygrometricus (Pers.)

"Water Measuring Earth Star."

Pouch.—Globose, depressed.

Outer case or skin.—Dividing into 7 to 20 segments, tough, drawn closely together when dry, swelling, becoming flexible and spreading out flat, star shaped upon the ground when moist, dingy white in color.

Inner case or skin.—Globose, pointed slightly at mouth which is irregular, pitted, grayish; when young, soft and creamy white, containing the spores which are emitted in a brown powder when the fungus is touched.

Spores.—Globose, minutely warted, brown.

Stem.—Wanting.

Odor.—Not noticeable.

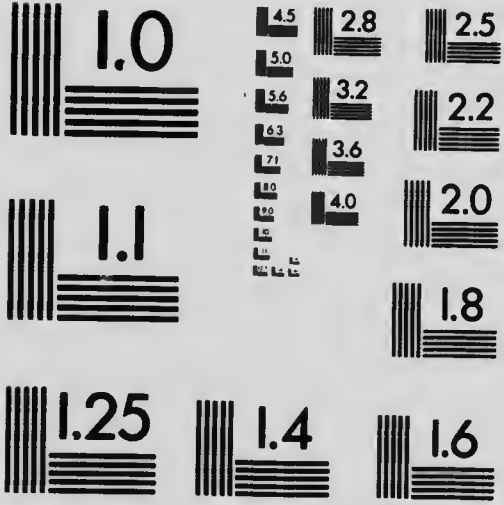
Taste.—Not strong.

Habitat.—In sandy fields, very common July and August. Found all over the United States.

CALVATIA GIGANTEA

MICROCOPY RESOLUTION TEST CHART

(ANSI and ISO TEST CHART No. 2)



APPLIED IMAGE Inc

1653 East Main Street
Rochester, New York 14609 USA
(716) 482 - 0300 - Phone
(716) 288 - 5989 - Fax

CALVATIA gigantea (Batch.)

"Giant puff-ball."

Plant.—10 to 20 inches in diameter, globose, with a root-like base, opening at upper part, rather regularly.

Outer skin.—Smooth, sometimes cracked in areas, whitish.

Inner skin.—Fragile, thread-like, white then greenish-yellow, finally black, adhering to outer skin.

Spores and *threads* fill the inside of the globe-shaped mushroom. Spores very numerous, globose, even, but sometimes minutely warted; greenish-yellow then brown, emitted from the opening in the plant in "smoke."

Odor.—Earthy.

Taste.—Mild when white throngh, bitter when of any other color.

Habitat.—On ground in pastures, along roadsides, common, August to October. Common in all sections of the United States.

Edible.—When white throughout. One of the very best mushrooms.

CALVATIA cyathiformis (Bosc.)

Plant 3 to 6 inches in diameter, pear-shaped with a cup-shaped, rooting base that remains af-

CALVATIA CRANIIFORMIS

ter the spores have been disseminated, the distinguishing feature of this species.

Outer skin.—Thick, brownish, cracking into large areas.

Inner skin.—Pale to dark purple, fragile.

Spores and threads.—Violet to purple, spores rough, globose, threads long.

Odor.—Earthy.

Taste.—Mild when white, bitter when of any other color.

Habitat.—On ground in pastures, common, July to October. Common all over the United States.

Edible.

CALVATIA craniiformis (Schw.)

"Brain-shaped Puff-ball."

Plant or Pouch.—3 to 6 inches in diameter, 4 to 5 inches in height, top shaped, depressed above.

Outer skin or cortex.—Very thin and fragile, grayish-white often folded in areas resembling the folds of a brain, hence the name.

Inner skin.—Thin, very fragile, yellowish-brown, upper part breaking away first.

Stem-like base or Subgleba.—Very thick, with a cordlike root. Occupies about one-half the entire plannt, cup-shaped, remaining after the upper part of pouch has disappeared.

Spores and threads.—Greenish-yellow, then brown; spores globose intermingled with the branch like threads.

Odor.—Mild.

Taste.—Mild while puff-ball is white; when tinged even slightly with yellow, very bitter.

Habitat.—On ground in woods in central United States; September and October; growing singly, not common.

Edible.

CALVATIA saccata (Fr.) from saccus a bag. "Long-stemmed puff-ball."

Plant.—2 to 4 inches high 1 to 2 inches broad, globose, supported on a long stem-like base, scaly, often folded in plaits beneath; white becoming brownish at maturity.

Stem.—Narrowed downward, rather thick, colored like top.

Spores.—Rough, dingy brown.

Odor.—Mild.

Taste.—Mild.

Habitat.—Woods swamps quite frequent July to November.

Edible.

LYCOPERDON pyriforme (Schaeff.) "Pear-shaped."

Plant.—1-2 to 1 1-2 inches across, up to 1 1-2

SCLERODERMA VULGARE

inches high, sessile, with tiny roots at base, covered with minute scales which give a roughened appearance to the skin, growing in clusters; cream-white, then dingy brown.

Spores.—Smooth, round, contained within the "pear-shaped" sac of the plant and emitted at maturity in a powder or "smoke from the mouth of the sac.

Odor.—Slightly acrid.

Taste.—Slightly acrid.

Habitat.—On stumps and decaying wood, very common everywhere, July to November. Found in all sections of the United States.

Edible.

SCLERODERMA vulgare (Fr.) from the Latin vulgaris, common.

Plant.—Somewhat globose, but inclined to be irregular in shape.

Outer skin.—Hard, composed of brownish yellow warts.

Inner mass.—In which the spores are collected in heaps, separated by white thread-like fibres; whole appearance of inner mass black and solid; cuts like a potato.

Spores.—Black, globose, warted.

Stem.—Wanting.

Odor.—Earthy.

Taste.—Mild.

Habitat.—On ground in open woods, very common, growing singly July to October. Found in all sections of the United States.

Edible.

GLOSSARY.

ABORTIVE. Imperfect, wanting.

ABRUPT. Terminating suddenly.

ACICULAR. Needle-shaped, as shape of spine.

ACUTE. Sharp; applied to gills having sharp edges or to those pointed at both ends.

ADHERING. Sticking together.

ADNATE. Growing into; as gills broadly attached to stem.

ADNEXED. Applied to gills attached to stem but not adnate.

AGARIC. Any gill-bearing fungus.

AGGLOMERATE. (a) Clustered together but not connected; (b) gathered into a heap or pile.

ALUTACEOUS. Having the color of leather.

ALVEOLATE. Bitted, resembling honey-comb.

ANASTOMOSING. Interlacing of branched veins or lines, said of gills that are united by fine lines or partitions.

ANNULAR. Ring-shaped.

ANNULUS. The ring on the stem of the mushroom formed by the separation of the veil from the margin of the cap.

ANTERIOR. In front, the end of a gill next the margin is called the anterior end.

APEX. The summit, in mushrooms, the end of the stem nearest the gill.

APICULATE. Terminating in an abrupt point.

APPENDICULATE. Hanging in small fragments, as the remnants of the veil sometimes hang from the margin of the pileus.

APPROXIMATE. Said of gills which approach but do not reach the stem.

ARACHNOID. Like a cobweb.

ARCUATE. Bow-shaped.

AREOLATE. Divided into little areas or patches.

ARTICULATE. Jointed.

ASCENDING. (a) Applied to a gill where its edge forms an ascending line from the margin of the cap to the apex of the stem, as in conical shaped pilei; (b) applied to the partial veil in the young stage of the mushroom when its attachment to the stem is below its attachment to the margin of the cap, in this case the ring formed from this veil is called inferior.

ASCOMYCETES. A group of fungi in which the spores are produced in tiny sack-like cells called asci.

ASCOPHORE. Sporophore bearing an ascus.

ASCUS. Microscopic, cask-like cell in which spores, generally eight in number, are developed.

ATROPURPURECUS. Dark purple.

ATROSANGINUEOUS. Dark blood color.

ATTENUATE. Becoming gradually narrow or smaller.

AURANTIACUS. Orange-colored.

AURICULATE. Ear-shaped.

BADIOUS. Bay; reddish-brown; chestnut color.

BASE. Opposite extremity of apex.

BASIDIOMYCETES. A group of fungi which has its spores produced on basidia.

BASIDIUM. Mother-cell in the hymenium of basidiomycetes formed on the end of a hyphal branch and abstricting spores; the spores are generally four in number each on a sterigma, but sometimes more, sometimes fewer and sometimes sessile.

BULBOUS. Said of a stem when it has a bulb-like swelling at the base.

CAESPITOSE. Growing in clumps.

CAMPANULATE. Bell-shaped.

CAP. Pileus; the umbrella-like expansion of the mushroom.

CAPILLARY. Resembling hair.

CASTANEOUS. Chestnut-colored.

CELL. A little cavity or hollow place; a mass of protoplasm of various size and shape, generally microscopic with or without a nucleus and enclosing wall, the fundamental form-element of every organized body.

CELLULAR. Composed of cells.

CERACEOUS. Waxy.

CERVINE. Fawn-colored.

CHLOROPHYL. The green coloring matter of plants.

CHLOROSIS. Blanching, whitening.

CILIA. Short parallel hairs, fringing the margin.

CINEREOUS. Ash-colored.

CINNABARINE. Brilliant red.

CINNAMOMEOUS. Cinnamon-colored.

CLATHRATE. Latticed.

CLAVATE. Club-shaped.

CLOSE. Said of gills when they are close together.

COALESCENT. Growing together of similar parts.

COCHLEATE. Shaped like a snail-shell.

COHERENT. Sticking together.

COMOSE. Hairy.

CONCOLOROUS. Of one color.

CONVEXO-PLANE. Between convex and plane.

CONVOLUTE. Covered with irregular depressions like the convolutions of a brain.

CORRUGATE. Wrinkled, puckered.

CORTEX. The rind or bark; the rind-like layers of some fungi.

CORTINA. Marginal veil of spider-web structure rupturing at or near the stem.

CRENATE. Scalloped.

CRETACEOUS. Chalky.

CRISP. Having the surface, especially near the margin wavy.

CRYPTOGAMIA. Flowerless plants propogated by spores.

CURT. Short.

CUTICLE. A distinct skin-like layer used to describe the skin-like layer, separable or unseparable, present upon the pileus.

CYANEOUS. Bright-blue.

CYATHIFORM. Cup-shaped.

DECUMBENT. Applied to a stem having the base resting upon the ground.

DECURRENT. Applied to gills which are prolonged down the stem.

DELIQUESCENT. Becoming liquid at maturity.

DENTATE. Tooth-shaped.

DENUDATE. Naked; exposed.

DEPRESSED. Sunk below the level of the surrounding margin.

DESCENDING. Applied to a marginal veil when in the young stage its marginal-attachment is below the level of the stem-attachment; a ring formed from it is called superior.

DICHOTOMOUS. Regularly divided by pairs from below upwards.

DIFFORMED. Irregular in form.

DISCIFORM. Disc-shaped.

DISCOMYCETES. A group of ascomycetous fungi in which the hymenium is exposed.

DORSAL. Pertaining to the back; in fungi to the upper surface of the pileus.

DOWN. Fine, soft hair.

EBENEOUS. Black like ebony.

EBURNEOUS. Ivory white.

ECCENTRIC. Not central, said of a stem which is attached to the pileus at some point between the center and the margin.

ECHINATE. Furnished with stiff bristles.

ELLIPTIC. More than twice as long as broad.

EMARGINATE. Notched at the end, applied to gills which have a notch close to the stem.

ENTIRE. Having the edge without toothing division.

EQUAL. Applied to a stem of uniform thickness; to gills of equal length.

ESCULENT. Edible.

EVEN. Having no depressions, no pits or striations, different from smooth and glabrous, which see.

FARINACEOUS. Mealy.

FARINOSE. Covered with a meal-like powder.

FASCICLE. A small bundle.

FASTIGIATE. (a) With branches erect and close together; (b) sloping upward to a summit.

FERRUGINOUS. Iron-rust-colored.

FIBRILLOSE. Covered with minute fibres.

FIGURATE. Applied to a hymenium borne upon gills, spines.

FILAMENT. A separate fibre.

FISSILE. Capable of being divided into layers.

FISSURED. Split.

FISTULOSE. Tubular, hollow.

FIXED, Said of gills or spines not readily detached from the underlying tissue.

FLACCID. Soft and limber, flabby.

FLAVOUS. Yellow.

FLESH. Inner substance of a fungus body as distinguished from the cortical layers.

FLOCCOSE. Woolly.

FREE. Said of gills which are not attached to the stem.

FUGACIOUS. Fading early.

FULIGINOUS. Smoky; sooty.

FULVESCENT. Somewhat tawny.

FULVOUS. Reddish-yellow.

FUMOSE. Smoke-colored.

FUNGUS. A thallophyte characterized by the absence of chlorophyll and deriving its substance from living or dead organic matter.

FUNICULAR. Having the character of small cords.

FURCATE. Forked.

FURFURACEOUS. Covered with bran-like particles.

FUSCOUS. Brown tinged with gray.

FUSIFORM. Spindle-shaped tapering from middle to both ends.

GASTEROMYCETES. A group of Basidiomycetes in which the hymenium is enclosed in a sack-like envelope called the peridium.

GELATINOUS. Jelly-like.

GENUS (pl. GENERA). A classified group ranking next above a species, containing one or more species.

GIBBOUS. In the form of a swelling; applied to a pileus which is more convex one side than the other.

GILL. Vertical plates radiating from the stem on the under side of the pileus on which the hymenium is situated; lamella.

GLABROUS. Smooth; applied to a surface devoid of down or hair; a surface may be glabrous and not even or vice versa.

GLANDS. Moist or sticky dots.

GLAUCOUS. Covered with fine whitish-green powder, easily rubbed off.

GLEBA. In Gastromycetes, spore-bearing tissue composed of chambers lined with the hymenium and enclosed by the sack-like peridium, as in puff-balls; in phalloids the peridium or volva ruptures and the gleba is carried up on a stipe-like receptacle.

GLOBOSE, GLOBULAR. Nearly spherical.

GLUTINOUS. Covered with a sticky exudation.

GRANULAR. Covered with tiny grain-like particles.

GREGARIOUS. Growing in groups but not in a tufted manner.

GUTTATE. Spotted with drops.

GYRATE. Having folds resembling those of a brain.

HABITAT. The natural place of growth of a species.

HIRSUTE. Covered with long stiff hairs.

HOARY. Covered with short grayish-white hairs.

HYALINE. Transparent.

HYGROPHANOUS. Looking watery when moist, opaque when dry.

HYMENIUM. The spore-bearing surface covering each side of the gill of an Agaric.

HYMENOMYCETES. A group of BASIDIOMYCETES having the hymenium on the free exposed surface of the sporophore.

HYPHA. The elementary thread of a fungus.

IMBRICATE. Overlapping like shingles on a roof.

INFERIOR. Below, applied to a ring formed from a veil, which in its young state has its stem attachment below the level of its marginal attachment.

INFUNDIBULIFORM. Funnel-shaped.

LACCATE. As if varnished or covered with shellac.

LAMELLA. See gills.

LANATE. Covered with a wool-like pubescence.

LANCEOLATE. Lance-shaped many times longer than broad.

LATERAL. Attached to, or by. one side.

LIVID. Bluish-black like the color of a bruise

LURID. Sordid, dirty brownish.

LUTEOUS. Egg-yellow.

MARGINATE. Having a well defined border.

MYCELIUM. Spawn of fungi resulting from the germination of the spores forming root-like threads (the hyphae).

MYCOLOGY. The science of fungi.

NAKED. Bare without covering of any kind.

NODULE. A little lump.

NUCLEATE. A little nucleus.

OPAQUE. Mostly used in the sense of dull not shining.

PAPILONACEOUS. Variegated; mottled as the gills of Panaeolous mottled with black spores.

PARASITE. A plant growing on another living body.

PERIDIUM. The outer coat of the sporophore as in puff-balls.

PERSISTENT. Enduring, continuing without decaying or falling off.

PILEUS. The umbrella-like cap or similar receptacle of fungi; it may be regular or irregular in form.

PLICATE. Plaited.

POSTERIOR. Denotes a position on under side of pileus adjacent to the stem, the end of the gills next the stem is the posterior end.

PRUINATE. Covered with a bloom or powder.

PUBESCENCE. General term to describe hairiness.

PUNCTATE. Having dots scattered over the surface.

RETICULATE. Marked with crossed lines like a net.

RING, ANNULUS. Part of the veil adhering to the stem.

RUFOUS. Dull-red.

RUGOSE. Wrinkled.

SACCATE. In the form of a pouch.

SANGUINEOUS. Blood-colored.

SCABROUS. Rough to the touch.

SCISSILE. Capable of being split; said of gills which can be split into two plates.

SEPTATE. Having partitions.

SERIATE. Arranged in rows.

SERICEOUS. Silky.

SERRATE. Having marginal teeth like a saw.

SESSILE. Having no stem or stalk.

SINUATE. Winding in and out, said of gills that are alternately convex and concave.

SMOOTH. Glabrous, destitute of pubescence; a surface may be uneven and yet smooth.

SOLITARY. Growing singly.

SORDID. Of a dirty tinge.

SPATHULATE. Having a flat, round top with a long narrow base.

SPORE. The reproductive body of cryptograms analagous to seeds.

SQUAMULOSE. Covered with minute scales.

SQUARROSE. Rough with scales.

STIPE. Stalk or stem of a mushroom.

STRIATE. Marked with lines.

STROBILIFORM. Resembling a pine cone.

STUFFED. Said of a stem filled with a cottony pith.

SULCATE. Grooved.

SUPERFICIAL. Situated close to the surface.

SUPERIOR. Upper surface, applied to a ring formed from a partial veil which in the young state has its stem attachment above the level of the marginal attachment.

TESSALATED. Arranged in small squares; checkered.

TOMENTOSE. Woolly.

TOMENTUM. Long soft hairs pressed close to the surface.

TORTUOUS. Bending or turning in various directions.

TRAMA. The substance extending from the hymenophore between the plates of the gills in Agarics and between the double membranes, of which the partitions of the pores are composed, in the POLYPOREI; the plates forming the walls of the chamber of the gleba in GASTEROMYCETES.

TREMELLOID. Jelly-like.

TRUNCATE. Ending abruptly as if cut off.

TUBAEFORM. Trumpet-shaped.

TUBE. In polyphores tube lined with hymenium; pore.

TUBERCLE. A small knob or swelling.

TUMID. Inflated swollen.

TURBINATE. Top-shaped.

UMBILICATE. Having a navel-like or central depression.

UMBO. A knob in the center of the pileus.

UNDULATE. Having the surface near the margin wavy.

UNEQUAL. Applied to gills of varying lengths, to a stem of not uniform thickness.

VAGINATE. Furnished with a sheath.

VASCULAR. Furnished with ducts.

VEIL. (a) Partial or marginal veil, a special covering extending from the margin of the pileus to the stem enclosing the gills; (b) universal veil or volva a covering enclosing the entire plant when in young state either joined to the cuticle of the pileus, as in Lepiota, or separated, as in Amanita, ultimately ruptured by the expanding pileus; (c) a fibrous or granulose coating stretched over the mouth of a cup soon breaking up into fragments.

VEINS. Swollen wrinkles at the base and on the sides of gills often connected to form cross partitions.

VENOSE. Veined.

VENTRICOSE. Swelling out in the middle.

VERMICULAR. Worm-shaped.

VERNAL. Pertaining to spring.

VILLOUS. Covered with soft hair.

VISCID. Sticky.

VISCOUS. Gluey.

VOLVA (a) Same as universal veil the name is often applied to that part of a separate volva which is left after rupturing attached to the base of the stem in the form of a sheath; (b) the peridium in phalloids is similar to the volva in Amanitae.

WART. Any wart-like excrescence found on the pileus of fungi name applied to the wart-like remains of the volva which adhere to the pileus of some Amanitae.

ZONES. Circular bands of color.

INDEX OF GENERA.

AGARICUS campester (Linn.) 119
" silvaticus (Schoeff) 121

AMANITA Caesaria (Scop.) 49
" crenulata (Pk.) 50
" excelsa (Fr.) 45
" Frostiana (Pk.) 47
" muscaria (Linn.) 46
" phalloides (Fr.) 45
" rubescens (Pers.) 49

AMANITOPSIS vaginata (Roze) 53

AMILLARIA mellea (Wahl.) 59

BOLETINUS pictus (Pk.) 138
" porosus (Berk.) 139

BOLETUS Americanus (Pk.) 140
" bicolor (Pk.) 141
" castaneus (Bull.) 150
" chromapes (Fr.) 147
" chrysentereon (Fr.) 146
" edulis (Bull) 147
" felleus (Bull) 149
" flavidus (Fr.) 140
" granulatus (Linn.) 142
" ornatipes (Pk.) 143
" scaber (Fr.) 145
" variegatus (Swartz) 143

CALVATIA craniiformis (Schw.) 181
" cyathiformis (Bosc.) 179
" gigantea (Batsch) 179
" saccata (Fr.(..... 182

CANTHARELLUS cibarius (Fr.) 99
CLAVARIA cinerea (Bull)..... 165
" cristata (Pers.) 166
" flava (Schaeff) 165
CLITOCYBE gilva (Pers.) 69
" illudens (Schw.) 67
" laccata (Scop.) 65
CLITOPILUS prunulus (Scop.) 104
COLLYBIA confluens (Pers.) 73
" dryophila (Bull) 75
" radicata (Relh.) 71
" velutipes (Curt.) 71
COPRINUS atramentarius (Bull) 131
" comatus (Fr.) 130
" micaceus (Bull) 133
CORTINARIUS cinnabarinus (Fr.) 113
" cinnamomeus (Fr.) 115
" corrugatus (Pk.) 116
" violaceus (Fr.) 112
ENTOLOMA clypeatum (Linn.) 105
" rhodopolium (Fr.) 104
FISTULINA hepatica (Fr.) 153
GEASTER hygrometricus (Pers.) 177
GEOGLOSSUM glutinosum (Pers.) 171
HYDNUM imbricatum (Linn.) 159
" repandum (Linn.) 161
HYGROPHORUS miniatus (Fr.) 83
HYPHOLOMA appendiculatum (Bull)..... 125
" perplexum (Pk.) 127
" sublateritium (Schaeff) 129
HYPOMYCES lactifluorum (Schw.) 173
LACTARIUS piperatus (Fr.) 87
" subdulcis (Fr.) 89
" volemus (Fr.) 85

LEOTIA lubrica (Pers.) 169
LEPIOTA naucinoides (Pk.) 57
" procera (Scop.) 55
LYCOPERDON pyriforme (Schaeff) 182
MARASMIUS oreades (Fr.) 99
MORCHELLA deliciosa (Fr.) 169
MYCENA galericulata (Scop.) 77
NAUCORIA semi-orbicularis (Bull) 111
OMPHALIA campanella (Batch) 79
PANAEOLUS retirugis (Fr.) 139
" solidipes (Pk.) 137
PEZIZA aurantia (Pers.) 173
" badia (Pers.) 172
PHALLUS Ravenelii (Bull) 175
PHOLIOTA adiposa (Fr.) 109
" squarrosa (Mill.) 108
PLEUROTUS ostreatus (Jacq.) 79
" sapidus (Kalchb.) 81
PLUTEUS cervinus (Schaeff) 107
POLYPORUS betulinus (Fr.) 157
" brumalis (Fr.) 153
" sulphureus (Fr.) 155
POLYSTICTUS perennis (Fr.) 159
RUSSULA emetica (Fr.) 93
" foetens (Fr.) 91
" fragilis (Fr.) 95
" purpurina (Schulz.) 89
" roseipes (Secr.) 97
" virescens (Fr.) 95
SCLERODERMA vulgare (Fl. Dan.) 184
SPARASSIS crispa (Fr.) 163
STROBILOMYCES strobilaceus (Berk.) 151

STROPHARIA semiglobata (Batsch.) 123
TRICHOLOMA personatum (Fr.) 61
" russula (Schaeff.) 63
" sejunctum (Sow.) 65
VOLVARIA speciosa (Fr.) 103

INDEX OF SPECIES.

	Page
adiposa (Pholiota)	109
Americanus (Boletus)	140
appendiculatum (Hypholoma)	125
atramentarius (Coprinus)	131
aurantia (Peziza)	173
badia (Peziza)	172
betulinus (Polyporus)	157
bicolor (Boletus)	141
brumalis (Polyporus)	153
Caesaria (Amanita)	49
campanella (Omphalia)	79
campester (Agaricus)	119
castaneus (Boletus)	150
cervinus (Pluteus)	107
chromapes (Boletus)	147
chrysentereon (Boletus)	146
cibarius (Cantharellus)	99
cinnabarinus (Cortinarius)	113
cinnamomeus (Cortinarius)	115
cinerea (Clavaria)	165
clypeatum (Entoloma)	105
comatus (Coprinus)	130
confluens (Collybia)	73
corrugatus (Cortinarius)	116
craniiformis (Calvatia)	181

crenulata (Amanita) 50
crispa (Sparassis) 163
cristata (Clavaria) 166
cyathiformis (Calvatia) 179
deliciosa (Morchella) 169
dryophila (Collybia) 75
edulis (Boletus) 147
emetica (Russula) 93
excelsa (Amanita) 45
fellens (Boletus) 149
flava (Clavaria) 165
flavidus (Boletus) 140
foetens (Russula) 91
fragilis (Russula) 95
Frostiana (Amanita) 47
galericulata (Mycena) 77
gigantea (Calvatia) 179
gilva (Clitocybe) 69
glutinosum (Geoglossum) 171
granulatus (Boletus) 142
hepatica (Fistulina) 153
hygrometricus (Geaster) 177
illudens (Clitocybe) 67
imbricatum (Pydnum) 159
laccata (Clitocybe) 65
lactifluorum (Hypomyces) 173
lubrica (Leotia) 169
mellea (Armillaria) 59
micaceus (Coprinus) 133
miniatus (Hygrophorus) 24-83

muscaria (Amanita) 46
naucinoides (Lepiota) 57
oreades (Marasmius) 99
ornatipes (Boletus) 143
ostreatus (Pleurotus) 79
perennis (Polystictus) 159
perplexum (Hypholoma) 127
personatum (Tricholoma) 61
phalloides (Amanita) 45
pictus (Boletinus) 138
piperatus (Lactarius) 87
porosus (Boletinus) 139
procera (Lepiota) 55
prunulus (Clitopilus) 104
purpurina (Russula) 89
pyriforme (Lycoperdon) 182
radicata (Collybia) 71
Ravenelii (Phallus) 175
repandum (Hydnum) 159
retirugis (Panaeolus) 136
rhodopolium (Entoloma) 104
roseipes (Russula) 97
rubescens (Amanita) 49
russula (Tricholoma) 63
saccata (Calvatia) 182
sapidus (Pleurotus) 81
scaber (Boletus) 145
sejunctum (Tricholoma) 65
semiglobata (Stropharia) 123
semi-orbicularis (Nancoria) 111

silvaticus (Agaricus) 121
solidipes (Panaeolus) 137
speciosa (Volvaria) 103
squarrosa (Pholiota) 108
strobilaceus (Strobilomyces) 151
subdulcis (Lactarius) 89
sublateritium (Hypholoma) 129
sulphureus (Polyporus) 155
vaginata (Amanitopsis) 53
variegatus (Boletus) 143
velutipes (Collybia) 71
violaceus (Cortinarius) 112
virescens (Russula) 95
volemus (Lactarius) 85
vulgare (Scleroderma) 184

INDEX OF COMMON NAMES.

	Page
American Boletus	140
Beefsteak Mushroom	153
Birch-tree Polyporus	157
Bitter Boletus	149
Blushing Amanita	49
Brain-Shaped Puff-ball	181
Brick Top	129
Chestnut Boletus	150
Cinnamon-colored Cortinarius	118
Common Field Mushroom	119
Coral Mushroom	165
Corrugated Cortinarius	116
Delicious Morel	169
Eccentric Stemmed Boletinus	139
Egg-yellow Chanterelle	99
Fairy Ring	99
Fat Pholiota	109
Fly Amanita	46
Giant Puff-ball	179
Golden Peziza	173
Hedge Mushroom	161
Honey Mushroom	59
Inky Cap	131
Long Stemmed Puff-ball	182

Oak-loving Mushroom 75
Orange Amanita 49
Oyster Mushroom 30-79
Painted Boletinus 138
Pale Yellow Boletus 140
Parasol Mushroom 55
Perplexing Hypholoma 127
Red-Cracked Boletus 146
Rooted Collybia 71
Shaggy Mane 130
Smooth Lepiota 57
Sponge mushroom 169
Violet Cortinarius 112
Water Measuring Earth-Star 177
Winter Polyporus 153